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HOME NURSING

BY
ABBIE Z. MARSH
PORTLAND, OREGON

HOME NURSING

MARSH

WITH 34 ILLUSTRATIONS



PHILADELPHIA
P. BLAKISTON'S SON & CO.
1112 WALNUT STREET

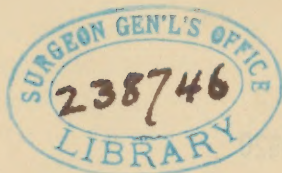
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WITH 48 ILLUSTRATIONS



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no 2

TO MRS. HELEN EKIN STARRETT

The friend whose interest in my subject and belief in the value of my book have been a constant inspiration and encouragement to persevering effort for its completion and publication.

And to the mothers of the past who nursed their ill ones with comparatively none of the facilities and knowledge with which the science of modern medicine has endowed the mothers of today.

And to all mothers whose parental cares and duties it is my hope to lighten,

THIS BOOK IS DEDICATED.

FOREWORD

Home care of the sick in connection with domestic science should be included in every girl's education.

Such teaching would be quite a factor in eliminating the great economic waste, through avoidable illness, by promoting a more intelligent coöperation between the patient and physician and the enforcement of public health laws. Therefore the writer believes that the laity would be greatly benefited in health if such a course were made compulsory in our public schools.

The selection and arrangement of topics in this book are intended to meet the problems of illness in the home, including only such cases as are possible of cure outside of hospitals. Surgery requires hospital equipment for both safety and comfort. Injuries and emergencies are more safely and satisfactorily treated in hospitals; and whenever it is possible to take such cases to the hospital it should be done; frequently much suffering can be avoided and valuable time saved by such action. Automobiles can nearly always be obtained, and in the remote country districts a good bed of straw in a spring wagon will make an excellent bed for safely conveying a patient to the hospital.

Nearly every town of more than five thousand inhabitants has a hospital. However, the expense of hospital treatment is not always easily met, and many people object to accepting the charity which is always extended to those who need it.

Hospitals may help but they will never entirely solve the problem of caring for illness in the home.

The extensive advertisement of a "sure cure" may make a millionaire of any one who has the money to finance it, thus proving that many innocent people are the victims of unscrupulous individuals and money-making schemes.

The laity should understand that the recommendation of a "sure cure" for every ill at once condemns it in the judgment of competent authorities. The teaching that recognizes Nature's danger signals as far as it is possible to do so, and then advises how to proceed with safety, is far more valuable than the teaching that advises peppermint water for an indigestion instead of studying the cause of it, and thus curing the condition by the removal of the cause.

The public knows that it requires years of study to prepare for the practice of medicine, and unless so prepared no one is competent to give an opinion on matters of such vital importance to the individual.

The old method of relieving pain, instead of the new method of curing the cause of it, gave opportunity for a doctor to make wonderful "cures." Today, physicians recognize that the old method was wrong, and it now happens occasionally, that they ask a patient to suffer distressing pain, sometimes for hours, in order to properly observe the symptoms and determine the cause.

This cannot be intelligently done if the symptoms are obscured by morphine.

If relief from pain was the only object, the physicians could stock the drug stores with pills and powders of morphine and opium and go on a holiday.

This explains why all physicians condemn the advertised "cures" guaranteeing relief, as, for instance, the curing of a cough that may be due to a serious form of

heart or lung trouble. In either case the cough is merely a symptom, while the condition that causes it may be a very serious one, requiring very different treatment.

We must outgrow the idea that the taking of a few doses of medicine is the key to health. Medicine helps and is important only when the need for it is intelligently understood. This need can only be understood by those who have made it a life study and the value of intelligent co-operation on the part of the laity in recognizing this fact will save many valuable lives through timely aid.

An elementary knowledge of Anatomy, Physiology and Hygiene as studied in the public schools is necessary in connection with this course. The course is divided into three parts: Part I presents the *technique* of nursing with special attention given to the adaptation of home equipment to nursing needs. It can be taught in fifteen lessons of from one to two hour sessions. Every topic should be demonstrated by a competent graduate nurse preferably on a living model.

Parts II and III need not be included in the public school course unless so desired; they have been added for the giving of a safe reference and guide in the student's future needs; they constitute the practical application of the technique as taught in Part I.

The subject of Home Nursing should be taught in the last half of the senior year; the writer hopes that, in time, it will be taught as a post-graduate course in half day sessions, and open to all women throughout the year.

The writer hopes that credit has been given in the proper places for all matter quoted from other authors, to whom she is grateful.

CONTENTS

	PAGE
FOREWORD	vii

PART I

CHAPTER I

GERMS AND HOW THEY WERE DISCOVERED.	I
Discovery of ether—Discovery of bacteria—Germs are divided into two classes—Germs cause fermentation and disease—Phagocytes—Immunity from disease—Toxins and anti-toxins—Vaccination.	

CHAPTER II

HOW TO KEEP THE BODY HEALTHY	12
What the body needs—Body cleanliness and sanitary care of toilet articles—Clean hands—Good habits—Sensible clothing—Mental attitude.	

CHAPTER III

THE FAMILY DOCTOR AND THE HOME MEDICINE CUPBOARD. .	21
How to select a physician—Laxatives and purgatives—Remedies for cuts and wounds—Chafing and sunburn—Burns—Miscellaneous remedies: Epsom salts—Seidlitz powder—Citrate of magnesia—Licorice powder—Castor oil—Cascara sagrada—Tincture of iodine—Boracic acid solution—Ipecac—Aromatic spirits of ammonia—Paregoric—Unguentine—Bicarbonate of soda—Olive oil and turpentine—Omit dangerous poisons—Safer remedies.	

CHAPTER IV

THE SICK ROOM AND NURSE	28
Location of sick room—The bed—How to make the empty bed—Care of the sick room—How to put coal in the stove—Care of slop jar, linen, feeding cup and glasses—Ventilation—Temperature of sick room—Flies and screens—The nurse—Common rules to follow.	

CHAPTER V

	PAGE
CARE OF EARLY STAGE OF ILLNESS	34
Early signs of sickness—How to proceed with safety— Daily care—When to call the doctor—How to aid the doctor.	

CHAPTER VI

THE PATIENT—NURSING CARE.	36
The first laxative—Paper useful for many purposes—Daily care of patient—The cleansing sponge bath—Brushing the teeth—Combing the hair—Changing the sheets—Putting on the gown—Removing the soiled gown—Care of nails— Putting on the blankets—Changing the pillows.	

CHAPTER VII

THE PATIENT—NURSING CARE (<i>Continued</i>)	43
Temperature—Normal—Sub-normal—Counting the pulse and respiration—Normal respiration—Care of the mouth —Mouth washes—Backache and “fidgets”—Turning the patient—Lifting the patient—Sitting up in bed—A bed cradle—Bed sores—Air cushions and rings—The bed pan and alcohol rub—Washing the hair—Chronic invalid— Moving from bed to couch—Entertaining and feeding the patient.	

CHAPTER VIII

METHODS OF TREATMENT	55
Enemata—Simple enema—High enema—Normal salt solu- tion—Starch—Turpentine—Nutritive—Vaginal douche— Aural douche—Catheterization—Poultices and fomenta- tions—Flaxseed poultice—Charcoal poultice—Hot fomen- tations or stupes—Turpentine stupe—Mustard plaster— Tincture of iodine—Liniments—Dry heat—Wet applica- tions—Cold applications—Cold compresses.	

CHAPTER IX

HOT AND COLD PACKS, COLD SPONGE, VAPOR INHALATION . .	66
Effects of baths—Baths for reducing temperature—Cold sponge—Cold pack—Hot pack—Foot bath—Steam inhala- tion—Hot fomentation on throat and chest.	

CHAPTER X

	PAGE
ADMINISTRATION OF MEDICINE	72
Importance of accuracy—Liquids—Pills—Powders—Inhalation—Inunction—Absorption—Measuring—Proper care—Caution—How to give acids—Purgatives—Laxatives—Dropping from the bottle—The unconscious patient—Sleep producing medicines—Danger in patent medicines.	

CHAPTER XI

DISINFECTANTS AND ISOLATION.	77
Nature's method—Disinfection—Infection and contagion—Sterilization by heat—Basins—Linen—Dishes—Disinfectant solutions: Bi-chloride—Carbolic acid solution No. I and No. II—Lysol, potassium, permanganat, boracic acid solution, chloride of lime, milk of lime, disinfecting excreta—Bed linen—Expectoration—Nursing appliances and bath water—Rules of isolation—Room—Caps and aprons—Care of infected linen—Care of the sick room—Utensils, bath room and nurse's hands—Disinfection at the termination of the disease—Personal precautions to be taken by the nurse—Fumigation of the room and its contents.	

CHAPTER XII

PREPARATION OF DRESSINGS AND THE DRESSING OF SMALL INJURIES.	87
Surgical cleanliness—How to prepare the hands—How to sterilize dressings—How to prepare old linen—How to dress small injuries.	

CHAPTER XIII

CARE OF EYE AND EAR.	91
The eye—Foreign body in the eye—To irrigate the eye—Drops in the eye—Earache—To relieve inflammation—Irrigation for hardened wax—Foreign bodies in ear or nose—Nose bleed.	

CHAPTER XIV

BANDAGING	96
The different kinds—What they are used for—Triangular bandage—Roller bandage—Applying—Taking off—The spiral bandage—The figure-of-eight—Many tailed—Four tailed—Scultetis T-bandage.	

CHAPTER XV

	PAGE
FRACTURES, ACCIDENTS AND EMERGENCIES.	102
Fractures—To support a fractured limb—Dislocation— Sprains—Strapping—Nursing care of a fractured hip— Accidents—First aid—Shallow wounds—Bleeding from an artery—Scalp wound—Vein—Bleeding from palm of the hand—Surgical cleanliness—Swelling of part—Drowning —Artificial respiration—Suffocation from gas—Uncon- sciousness—Sunstroke—Heat—Exhaustion—Fainting— Apoplexy or stroke—Hysteria—Ptomaine poisoning— Poison ivy—Burns and scalds—Shock—Burns caused by acids—Sunburn—Frost bite—Chilblains—Bites and stings of insects—Rabies or hydrophobia—Boils and felons or runarounds—Choking—Accidental poisons and emetics for them—Irritant poisons and treatment.	

PART II

CHAPTER XVI

SYMPTOMS OF DISEASE	123
Normal health—Nature's danger signals—Fever symp- toms—Scanty urine—Chills—Rashes—Dropsy—Measur- ing urine—Specimens—Bowels—Convulsions—The skin— Pain—Coughs—Inflammation—Delirium—Blue lips— Gripping pains.	

CHAPTER XVII

CONTAGIOUS AND INFECTIOUS DISEASES.	133
Recognition of early symptoms important. Two impor- tant rules, viz.: Care of the skin and teaching the patient how to cough—Mumps—Chickenpox—Measles—German measles—Smallpox—Scarlet fever—Diphtheria—Infec- tious diseases—Typhoid fever—Pneumonia—Infantile par- alysis—Whooping cough—Tuberculosis—Meningitis— Syphilis—Gonorrhea.	

CHAPTER XVIII

NON-CONTAGIOUS DISEASES	154
Appendicitis—Apoplexy—Anemia—Bright's disease— Uremia—Bronchitis—Cancer—Diabetes—Diarrhea—	

Dysentery—Epilepsy—Heart disease—Influenza—Lock-jaw—Lumbago—Malaria—Tonsillitis—Rheumatism—Pyorrhea—Skin diseases—Colds—Indigestion—Head-aches—Constipation.

CHAPTER XIX

COMMON AILMENTS AND NON-CONTAGIOUS DISEASES OF CHILDREN	167
Colic—Constipation—Indigestion—Croup—Convulsions—Colds—Scalding—Prickly heat—Eczema—Rickets—Scurvy—Other conditions—Tonsils and adenoids—Tuberculosis—Of the lungs—Hip-joint disease—Pott's disease—Head lice.	

CHAPTER XX

THE NERVOUS PATIENT AND MENTAL HYGIENE	180
Nervousness is a symptom—Effect of the mind on the organs of the body—Causes of mild forms of nerve exhaustion—Nervous prostration—Treatment—Hysteria—Mental hygiene.	

CHAPTER XXI

CARE OF THE AGED.	188
---------------------------	-----

PART III

CHAPTER XXII

INFANT CARE AND FEEDING	191
Introduction—The new-born infant—The bath—Dressing the naval cord—The clothing—Nursing the baby—The nipples—The cracked nipple—The inverted nipple—The breast pump—Hot application for engorged breasts—Infected eyes—An infant's cry—The cry of hunger—The cry of indigestion—The cry of pain—The cry of weakness or exhaustion. The cry of temper—Investigate cause of crying—General care under normal conditions—Intervals of feeding—Two-hour and three-hour schedules—Care of mother's health—Every-day care of baby—Bathing—To prevent chafing—Proper warmth and covering—Care of	

the mouth—Fresh air—Sleep—Protect the eyes—Bowels and urine—Ear and ulcer syringe—Regular bowel habits—Urine.

CHAPTER XXIII

INFANT CARE AND FEEDING (<i>Continued</i>)	209
Milk supply—Certified milk—Care of milk—Home-made ice box—Pasteurizing—Nursing bottles—Nipples.	

CHAPTER XXIV

INFANT CARE AND FEEDING (<i>Continued</i>)	213
Modified cow's milk the best substitute for mother's milk—Nature's methods should be followed—Every detail important—Modified milk—Importance of preventing an indigestion—No definite rule applies to all babies—Rule for boiling milk in special cases—Whole milk—Top milk—How to prepare the feedings—To heat for feeding—Two and three-hour schedules—Make all changes gradually—Safe formulas for the average infant—Two-hour top milk formula—Three-hour whole milk formula—Fruit juices—Goat's milk—How to feed from the bottle—Changing from breast to bottle feeding—Symptoms requiring special modification—Proprietary foods.	

CHAPTER XXV

INFANT CARE AND FEEDING (<i>Continued</i>).	224
Under-feeding —Over-feeding—Weaning—Weaning from the bottle—Feeding of older children—Weighing the baby—The normal baby—Teething—Infant feeding in the tropics—General caution—Preventable accidents—The creeping pen—Protection of older reckless children—Attention to physical defects—Kindness to animals.	

CHAPTER XXVI

ESSENTIAL FOODS FOR CHILDREN	235
Nutriment measured in calories—Essential foods—Proteins—Carbohydrates—Starches—Sugar—Fats—	

Mineral salts—Water—Vitamines—Cellulose—Milk—
Substitutes—School age—Normal growth.

CHAPTER XXVII

RULES FOR SERVING FOOD. 251

Liquids for infants—Liquid diet for adults—Egg preparations for liquid diet—Gruels—Peptonized milk—How to prepare eggs for invalids and children—Toast—Kinds of diet—Kinds of foods—Foods for the relief of constipation.

HOME NURSING

CHAPTER I

GERMS AND HOW THEY WERE DISCOVERED

The men who made modern medicine and surgery possible will always rank among the greatest benefactors of humanity. Until as late as 1832 there was no such thing known as anesthesia in caring for the injured or wounded, and surgery as we understand it today was unknown fifty years ago.

The discovery of ether by Drs. Morton, Long, and Wells of the United States, and chloroform by Sir James Young Simpson of England, made painless surgery possible, but the attending risk of blood poisoning and suppuration of wounds due to ignorance of the presence of bacteria, made surgeons pause in fear of their own work even after their knowledge had established the need of surgery for the treatment of certain conditions.

Following the discovery of ether and chloroform, Joseph Jackson Lister improved the microscope to such an extent that it became a valuable scientific instrument. From the improvement of the microscope Louis Pasteur discovered that fermentation and decay were caused by microbes or bacteria and that they are present everywhere.

This discovery led Sir Joseph Lister, son of Joseph Jackson Lister to advance the theory that suppuration of wounds was caused by the action of harmful bacteria

on the exposed flesh; he having noted, that when the skin was not broken injuries healed perfectly.

The proof of his theory led to what we can now consider, the perfected technique of modern surgery.

We may add to these great names those of Roux, who discovered the serum for diphtheria; Chantemesse, the anti-typhus serum; Yersin, discoverer of the bubonic plague bacillus and its curative serum, and Koch the German, who discovered the tubercle bacillus.

Through the work of these great men communicable diseases that in olden times destroyed whole cities and even races, are almost unknown today.

The cleansing of our tropical localities of yellow fever, the Panama Canal Zone of malaria, and the treatment of diseases by antitoxins and serums rank (along with the earlier discoveries of Pasteur and Lord Lister) among the greatest scientific achievements of the past century.

We may well pause to compare the suffering endured before the days of anesthesia, and the hopelessness of those attacked by such fatal diseases as are now so easily and safely cured, that we may by a more intelligent understanding aid the work that means so much to our happiness and welfare.

Regardless of this priceless knowledge, one frequently heard the statement that the great epidemic of influenza of 1918 was due to panic and fear.

The *germs of malaria typhus or septicemia are as real as rattlesnakes*. It would be just as possible to think a rattlesnake into one's room through "fear" of the poison of its bite, as it is possible to think one of the virulent germs into existence through "fear" of the disease that it will cause.

It is also just as *impossible to treat all* the diseases that flesh is heir to through one idea or system of treatment,

as it would be for the modern cook to provide the entire line of cookery from one kind of batter.

The only effect that fear could have on disease would be the actual extent to which it interferes with or prevents the important organs of the body from performing their work properly.

Germs are divided into two classes, viz.—**bacteria** and **protozoa**. The bacteria are the smallest form of vegetable life and the protozoa are the smallest form of animal life.

There are hundreds of kinds of bacteria and a great many of them are useful to man by converting vegetable and animal decay into harmless matter which otherwise would be destructive to life.

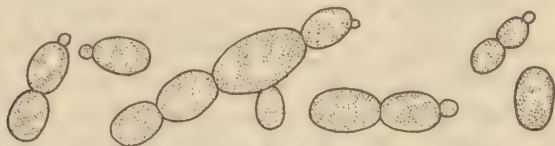


FIG. 1.—Microbes found in yeast. (Marshall.)

Vegetable life could not exist without the disintegration of dead plant life which is brought about by these germs. Through their action the elements required to produce and restore vegetation is returned to the earth. Since animal life is dependent upon vegetable life, it is clear that without decay, there could be neither animal nor vegetable life.

In addition to rebuilding the soil upon which vegetable life depends—many of the bacteria or germs that cause fermentation are very valuable to man. They produce such valuable foods as yeast, Fig. 1, for our bread, Fig. 2, butter, cheese, vinegar, etc.

Both the bacterial and protozoan classes of germs are everywhere present. They cannot be seen except by the

aid of the microscope and it is owing to this that so much ignorance exists as to these tiny forces which exert so much power for or against health.

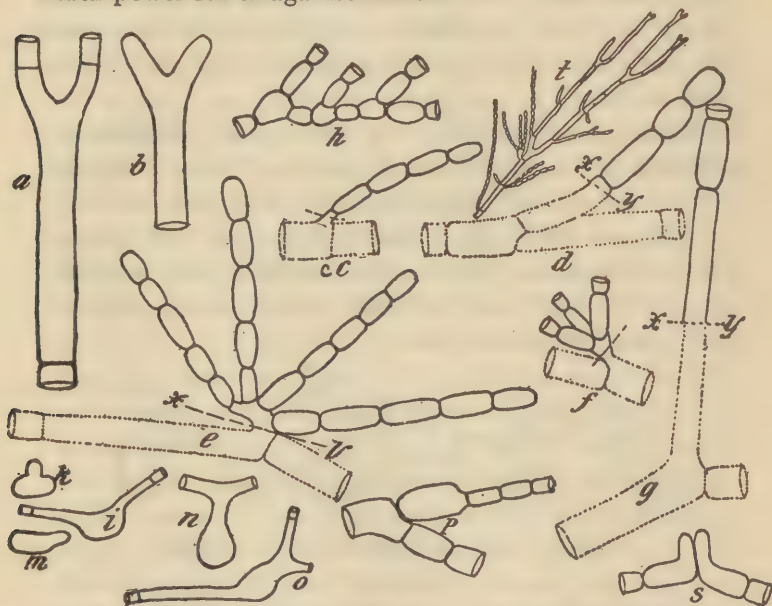


FIG. 2.—Microbes which are found in sour milk and cheese (*Bul. 82, Bur. Animal Industry, U. S. Dept. Agr.*)

Bacteria are composed of a single cell that is capable of subdividing itself so as to form other bacteria. Fig. 3.

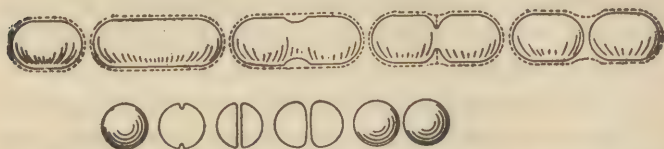


FIG. 3.—The division of bacterial cells; diagrammatic. (*Marshall after Novy.*)

This growth goes on very rapidly until millions are formed in a short time where the conditions are favorable for their growth. Fig. 4.

The conditions that are favorable for their growth require moisture, warmth, darkness, and the kind of food required to sustain them. Consequently disease germs that require the tearing down of the cells of our bodies in order to sustain themselves are always destructive in their action and unless the process is arrested, grave results follow.

The *germs of disease* are readily distinguished by medical men. The parent germ always comes from the body of some sick person. It is distributed either through carelessness or ignorance of its presence by

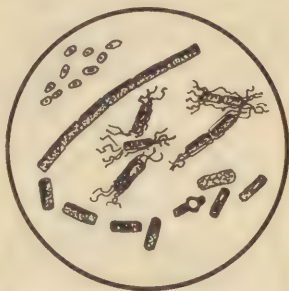


FIG. 4.—The growth of a microbe.

various means, such as food, drinking water; by flies, mosquitoes and vermin; by means of dust they are distributed through the air from such sources as spitting and sneezing, and other discharges of waste from the body.

Among the most common diseases caused by bacteria are diphtheria, typhoid fever, Fig. 5, tuberculosis, Fig. 6, tetanus (lockjaw), scarlet fever, influenza, whooping cough, pneumonia, cholera, Fig. 7, the pus forming germs, and many others.

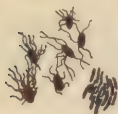


FIG. 5.—The typhoid bacillus. (Conn).

The most common protozoan diseases are yellow fever; the “sleeping sickness” of Africa and malaria: the “bug” of malaria can be clearly seen (with the aid of the microscope) crawling about within the cell wall of the red blood corpuscle just as a louse would crawl about on the surface of the skin.

Research work by scientific men has, more and more, revealed to us the causes of disease and the destruction wrought by disease germs. It likewise has determined

that the germs of disease meet vigorous resistance when they enter the body.



FIG. 6.—Tuberculosis bacillus; *a*, in a piece of animal tissue; *b*, showing irregularities resembling spores; *c*, typical appearance of the bacilli from ordinary cultures. (Conn.)

Nature has wisely provided our blood with certain cells called **phagocytes** or **white blood corpuscles**, which are the fighting soldiers of the blood, Fig. 8.

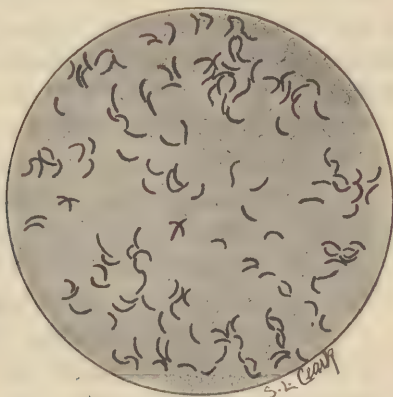


FIG. 7.—Spirillum of cholera; pure culture. (Coplin).

By keeping our bodies in good health the blood cells are made strong and vigorous, thus enabling the phago-

cytes to make a strong fight against the enemies of our bodies, Fig. 9.

It is a mistake however to think that disease germs are lurking everywhere. That bacteria are everywhere present is true, but of the hundreds of kinds of bacteria, comparatively very few cause disease, and it is fortunate for us that the germs of our most common diseases are not hard to destroy.

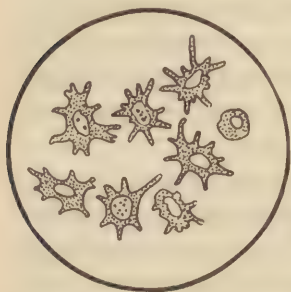


FIG. 8.—Phagocytes which keep our blood pure.



FIG. 9.—Phagocytes devouring microbes which injure us.

It is also a mistake to think that pure blood will kill germs. Resistance to germs is not entirely a question of pure blood, but a question of having in the blood such particular substances that will kill such particular germs.

Immunity from Disease.—Of equal importance to the white corpuscles or “sentinels of the body” the blood contains a *germicidal* or “*germ-killing*” substance that may be able to kill all the disease germs that enter our body throughout the period of a long life or it may fail in its power over certain ones of them. Thus the body that successfully resists an attack of smallpox or diphtheria may fall a victim to the germ of tuberculosis.

The body produces different germicidal substances for killing the germs of different diseases, just as different toxins and anti-toxins are produced to neutralize the poison-

ous effect of the germs. While the anti-toxin is neutralizing the toxin, the germicidal substance and phagocytes are killing off the germs, and when the body is successful in its struggle against the germs the patient recovers and there remains in the blood enough of the germicidal substance to render the body immune to the disease for an indefinite period which varies from a few months in some diseases to many years or even for life in others.

This clearly shows that nature does her part in guarding our welfare. We fail in doing our part when we do not coöperate intelligently in the prevention of germ diseases by properly isolating the patient and destroying the germs that come from the bodies of the sick.

Toxins and Anti-toxins.—When the germs of disease are introduced into the body they produce poisons that are called toxins which are carried by the blood to all parts of the body thus causing sickness by poisoning the cells.

The body protects itself against the effect of the toxin by producing an **anti-toxin**. As is generally supposed, the anti-toxin does not destroy the germs but instead it destroys or neutralizes the toxin, and this saves the cells from being poisoned until the white corpuscles and germicidal substances of the blood kill out the germs. *Each germ disease produces its distinctive toxin and anti-toxin.*

Scientists made this discovery and developed it from a mere theory to a scientific fact. Its discovery has placed the study of medicine in the lists of the exact sciences.

Anti-toxins and *vaccines* are made by placing the germs in beef broth where they multiply rapidly and produce great quantities of toxin. This toxin is then injected into the animal. (For diphtheria the horse is used; for small-pox the cow is used.) The animal at once begins to work up an anti-toxin against it. The injections are repeated in larger doses until the blood of the animal is made as

strong as possible in anti-toxin. The animal is then bled and the blood is allowed to clot which liberates the watery portion of the blood (serum) which now contains the *anti-toxin*.

The strictest surgical cleanliness is used in its preparation, and thorough tests of it are made before it is placed at the disposal of those who need it.

Thus that supreme organ, the human mind, has studied the laws of prevention and eradication of disease so that now many of our most fatal diseases are either entirely prevented or easily cured in their earliest stages by assisting nature's method of neutralizing their poisons by injecting into the blood the anti-toxin which we now know is required to overcome the disease and of which we otherwise have no positive assurance of our bodies being able to produce in sufficient quantities for the saving of life.

Diphtheria, typhoid fever, lockjaw, rabies, and blood poisoning, are a few of the most fatal diseases that are now either entirely prevented or successfully treated with anti-toxins or serums. Including vaccination for smallpox, millions of lives have been saved by their discovery.

Vaccination is an almost perfect protection against smallpox. It was discovered by Edward Jenner in 1797 and its practice began in 1800. Where it is thoroughly carried out, smallpox has almost ceased to exist.

The smallpox germ is such a powerful germ that 95 per cent. of all unvaccinated persons attacked by it will develop the disease; to very few human beings has Nature given white corpuscles enough to successfully resist it.

Many pages could be filled with statistics showing that vaccination almost surely prevents smallpox.

During the Franco-Prussian war all German soldiers were vaccinated while only a part of the French soldiers were vaccinated. In the German army there were only

278 deaths from smallpox, while in the French army there were 6000.

In the Philippine Islands before the American occupation, only a small part of the population had been vaccinated. In 1897 about 40,000 people died from smallpox. In 1907 there were but 304 deaths from this disease.

As there is no quarantine or disinfection in most parts of a kind that would control the disease, the great decrease in the number of deaths is wholly due to vaccination.

When it is properly done there is practically no danger from it. In 1907-1908, 3,709,187 people in the Philippines were vaccinated without a single death resulting from it.

The greatly swollen arms and running sores are caused by pus forming germs from impure virus, or infected instruments or the improper protection of the wound after the vaccination is made. Many persons have had only an infected wound of the arm instead of a successful vaccination.

Only virus that has been carefully prepared and sealed in glass tubes is now used.

How Immunity from the Disease is Produced.—The smallpox germ grows also in cattle causing a disease called cowpox. After growing in the cow the germ seems weakened and changed and grows feebly in man with only a slight power of producing the disease.

Where these germs are introduced into the human body by vaccination they grow and produce a mild form of the disease. As in all cases of disease the body at once commences to manufacture the germicidal substance with which to resist it.

In the cowpox form the germ is weak and the body is able to kill them out before they can multiply to a dangerous extent. After this is done the germicidal substance

remains in the blood and prevents any germs that may get into the blood from getting a start.

A successful vaccination produces the same immunity from the disease as the disease itself would produce if the patient recovered from an attack of it. Therefore, vaccination is a duty every person owes to himself and his fellowmen.

After vaccination, the immunity lasts longer in some people than in others. Just when it becomes too weak to successfully resist the germ is not as yet known. The safest way is to be vaccinated about every seven years or when exposed to the disease.

For Demonstration.

Show specimens under microscope if possible.

Discuss development of modern surgery.

Explain the treatment of disease by serums.

CHAPTER II

HOW TO KEEP THE BODY HEALTHY

The value of health cannot be overestimated and every individual from early youth should be taught that nature has her limitations.

The whole science of modern medicine and surgery is based upon discovering nature's methods and assisting her to recover the proper functioning of parts affected by disease or injury.

The Body Needs—

Pure fresh air, which is necessary to purify the blood; oxygen and sunlight are nature's purifiers.

Plenty of water. A glass should be taken before breakfast and one between each meal.

Proper food, properly prepared and eaten.

Foods should be chosen for their value in promoting the growth and repair of the body and for producing heat and strength.

Chewing the food properly is one of the important essentials of health. Don't drink with food in the mouth.

Overeating is almost as injurious as eating the wrong foods; the system becomes clogged with too much waste.

Improper food or too much of one kind of food, or food so prepared that it is indigestible are equally injurious to health.

Recreation, Rest and Exercise.—The old saying that the body will rust out sooner than it will wear out, is constantly demonstrated by the lives of many aged citizens, but at the same time, there is the equally true saying of "all work and no play makes a dull boy."

If one's work compels sitting still indoors, recreation should be something that requires outdoor exercise.

It is well to let our recreation give the unused parts of the body something to do so that each part gets its equal share of exercise.

The man in the office who uses his eyes and brain constantly and breathes indoor air, may find diversion in a motion picture show, but he will not find healthful recreation since his eyes are enduring a more severe strain than his work required, and the air through poor ventilation may be stale and poisonous.

Very much depends upon what anyone's everyday work is; but the best recreation would be a complete change from it.

Exercise in the open air is always worth the effort for the benefit gained by filling the lungs with fresh air, thus giving a fresh supply of oxygen to the blood.

Rest may be found in sleep or complete relaxation; the person who grows sleepless should take early warning and do everything possible to overcome it. The building up process goes on during sleep and every effort should be made to assist nature's methods, in repairing the waste and wear of the body.

If it were possible for every one to avoid over-taxation of strength, more than one-half the constitutional disturbances of health could be averted.

Over-exertion results in nervous disturbances such as indigestion and sleeplessness, which in turn weaken the normal processes of the vital organs and will in time undermine the strongest constitution.

An intelligent estimate of one's strength should be made and observed.

The custom of a short nap or period of complete relaxation in the middle of the day should be practised by every one; it in fact should become a national custom.

Body Cleanliness and Sanitary Care of Toilet Articles.—

Cleanliness is essential to health. There are innumerable small glands in the skin that have important functions to perform for the welfare of the body. One set of glands produces an oil which keeps the skin in good condition; another set helps to carry away the waste material formed in the body; the watery portion of the waste material evaporates leaving a residue on the skin which becomes rancid after a time and not only produces an unpleasant odor but clogs the pores, thus preventing their doing their work properly. Hence a frequent cleansing bath is necessary for the health of the body.

It is easy for the woman in the modern home with time and every opportunity to take the daily bath and give the dainty care to hair, teeth and nails, and clothing, but the busy housekeeper and toilworn working woman frequently find themselves too tired and often without opportunity for bath and the necessary toilet articles. The temptation is strong to drift into careless or slovenly habits of personal cleanliness.

A woman should, however, never forget, that personal cleanliness and daintiness of person can easily be made the most inexpensive feminine charm which she perhaps ever would or could acquire; and no matter how isolated or humble the home, soap and water can always be obtained. The kitchen is frequently as warm and comfortable a place for taking a bath as the bath room of a modern home; clean basins, tooth brushes, clean wash cloths and towels require very little space and a suitable place can be easily made for them.

It is the duty of every mother to teach the value of personal cleanliness of body to her children.

A large sized baby bath tub of galvanized iron, large enough for an adult to sit in comfortably, should be manu-

factured for use instead of the very uncomfortable wash tub so commonly used in country homes and houses without bath tubs.

Nothing so rests the weary body as a warm bath and a good rubbing down; its value in the care of health is beyond question.

The teeth should be brushed every day and without fail before retiring at night. This not only helps to prevent decay but it should be remembered that the mouth is the gateway to the body.

Leading from it are seven openings; two to the nose and upper air passages; one to the windpipe and thence to the bronchial tubes and lungs; two tubes lead from the throat to the ears; one to the stomach; and one to the outer world.

Putrefaction of food between the teeth goes on constantly when the mouth and teeth are not kept clean; this is a great source of danger to digestion. Keeping the mouth and throat clean during epidemics or contact with acute diseases is fighting a dangerous source of infection.

Poor teeth cause poor digestion and decaying teeth are a breeding place for germs and favor the development of germ diseases. Regular visits to the dentist is the safest rule to follow; it will prevent much unnecessary expense in the care of the teeth instead of incurring it.

The hair and scalp can so easily collect dust and dirt and perspiration, that the head should be washed at least once a month and oftener where children are allowed to play in the dust and dirt.

Offensive odor of perspiration is *nearly always inexcusable* for it can be controlled by astringents now so commonly used and by bathing and changing underwear frequently enough to prevent it.

The sanitary care of bath rooms, wash basins, tooth brushes, etc. is almost as important as their use.

Every bath room should have a cake of sandsoap or a can of washing powder and a suitable cloth kept for washing and rinsing the tub.

Every child above eight years should be taught to wash and rinse a tub or basin after using them. The oil and particles of skin that float on the water after a bath settle on the surface of the tub as the water flows out, and unless the tub is washed before being used again, the next person would come in contact with the dirt and waste left in the tub. In cases of skin infections, this would be a dangerous thing to neglect.

Tooth brushes used week after week without a thorough scalding can become foul from bacteria. They should be thoroughly rinsed by letting the water run through from side to side after use, and every week, after rubbing the bristles with soap a stream of boiling water should be poured over the brush until it is thoroughly scalded. Shaking dry salt on the brush after using is a good method of disinfection.

Wash cloths should be rinsed after use and hung on a rod or line to dry, and a fresh one used each week.

Hair brushes and combs should be kept clean.

Soiled clothes should always be removed from a bedroom and kept in an unoccupied room or laundry.

These precautions when practised easily become every day habits; they tend toward personal daintiness, and are habits no woman can afford to neglect.

Clean Hands.—One of the very important things in personal hygiene that is not emphasized as it should be is clean hands.

Everything we touch in a street car, shop, restaurant or public building, constantly goes through the process of

being handled or touched by many people. It is obvious that this is inevitable; but every one should remember the danger of conveying communicable or infectious diseases through such sources.

When the skin is unbroken there is but slight danger of germs entering the blood in that way, but there are many creases in the skin and under the nails where germs may lurk. Every child should be taught early in life not to put its hands to its face or eyes or touch its food before the hands are washed clean. This rule can become such a habit that it is done almost unconsciously. When dirty hands cannot be washed it is quite easy to protect food when eating if a little caution is used.

The habit of leaving the toilet without washing the hands is a dangerous and slovenly habit.

If every one could be taught to have a care for the welfare of others and do as he would wish to be done by in regard to the danger of spreading communicable diseases or infection, public health problems would be easily solved.

Good Habits.—Alcoholic liquors are one of the commonest causes of many serious diseases. It has been proved that even their moderate use is often harmful. The alcohol habit is easily acquired and very difficult to overcome. It is much safer never to learn to drink. Not only the ordinary liquors are dangerous; patent medicines may be quite as bad. Some patent medicines which contain morphine and cocaine are even worse than alcohol.

While tobacco serves no good purpose, it is so generally used without apparent injury that it would be futile to magnify its dangers. Those who use it would be better off without it; for some people its use is much worse than for others. *Growing boys should not smoke cigarettes.* Excessive use of tea or coffee is bad, and for some people

these drinks are dangerous. If ill effects are suffered from either then its use should be discontinued.

Clothing.—Women should learn that sensible clothing is one of the important essentials of health. The now old-fashioned small waists undoubtedly were responsible for much ill health among women.



FIG. 10.—Deformity of bones of the foot due to unsuitably shaped shoes.

Every woman should learn early in life that the well-dressed woman is the appropriately dressed woman, no matter what the occasion may be.

The French high-heeled slippers or shoes have no place on the street as a walking shoe or on the foot of a working girl whose work compels her to be on her feet all day, Fig. 10. They cause fatigue through the equilibrium of the body and internal organs being thrown out of position, thus compelling

muscles that are unaccustomed to the task to do the work of the ones that should be doing it. Under such conditions women easily become tired and irritable. A tight, uncomfortable shoe is slow torture, and it shows very readily in the distressed look on the face of the wearer.

Of equal importance to the comfortable shoe is keeping the feet dry. A thin shoe worn on a rainy, cold day without a rubber is a distressing sight; if one is compelled to wear it for any length of time, it means distress for the wearer.

The dictators of fashion should rise or fall on their success as designers of sensible clothing. If women demanded that clothing be designed to suit the needs of the body, instead of making the body conform to the design of the fashion, much benefit would result. This particularly applies to fashion in shoes, Fig. 11. It is of the greatest importance that the foot be properly fitted. Painful bunions and corns remain a deformity throughout life and are always due to too tight and ill-fitting shoes.

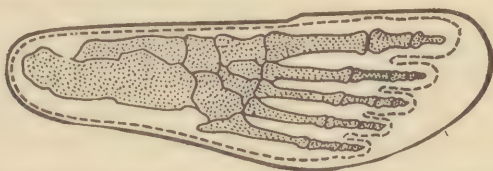


FIG. 11.—Suitable last for retaining the normal shape of the foot.

Happiness and a cheerful mental attitude toward life is an important essential of health. The mind requires freedom from worry as much as our bodies require comfortable clothing. When sleep is disturbed or restless, the mind grows weary and despondent. All should try to accept their responsibilities with cheerfulness, for a busy, cheerful mind is a great aid to digestion, while a disturbed worried mind will frequently cause an indigestion.

The mind requires just as much healthful recreation as the muscles. Outdoor sports and recreation afford diversion for both, and a wise provision for this mental and physical need is being developed by both state and federal governments.

Review Questions.

Why do we need fresh air?

Why do we need plenty of pure water?

For what purpose should foods be chosen?

What should healthful recreation consist of?

Why do we need exercise and rest?

Why should the skin be bathed?

Why should the teeth be kept clean?

Describe the necessary sanitary care of bathrooms and toilet articles.

Why should a child be taught to keep its hands clean?

Explain why high-heeled shoes cause fatigue and why tight shoes cause bunions.

What effect has a happy, cheerful nature on the digestion?

CHAPTER III

THE FAMILY DOCTOR—THE HOME MEDICINE CUPBOARD

With the question of home equipment, a word may here be said about the family doctor.

It would be a wonderful gift to the world if doctors were so richly endowed with skill and knowledge that they could not err in judgment or diagnosis, but this is too much to expect, since they are only human beings who have to depend more or less, upon the intelligent coöperation of the patient and the family. When this is lacking the most skillful physician may not succeed.

The average citizen selects his family physician without any thought of inquiry into that individual's qualifications for his work.

It is safe to say that a doctor who has graduated from the medical department of any of our State Universities, including all institutions ranking as Class A, and who has further extended his knowledge by hospital experience and who also holds the respect of the men of his profession, is entitled to the confidence of the public.

Instruction in how to manage with home equipment for nursing is important, but at the same time there are certain necessary things seldom found in the home, without which serious consequences may result.

In the future we may hope for organized Public Health Community Centers, where the necessary appliances for the care of the sick in the home can be requisitioned for use and returned when no longer needed. Sterilized dressings could be prepared there and much of the cost

of illness could be averted by those who can ill afford the expense of purchasing them. In country districts, such articles could be carried to the family in need of them by the family doctor.

The Medicine Cupboard.—All modern homes have one installed and they can be bought complete; but where it cannot be afforded, one can be made out of a suitable packing box easily obtained from the grocer. A shelf can be placed in the center and the inside and outside painted or papered.

This should be placed well beyond the reach of children.

Among the safe home remedies which every physician would advise are:

For Laxatives and Purgatives.

Citrate of magnesia and Seidlitz powder.

Licorice powder. Epsom salts.

A bottle of three-grain cascara sagrada pills.

A bottle of castor oil.

All of these have stood the test of years.

For Cuts and Wounds.

Tincture of iodine.

Boracic acid for making up solution.

Some sterile gauze and bandages.

A roll of adhesive plaster.

For Abrasions of the Skin, Chafing and Sunburn.

A jar of zinc ointment.

Camphor ice is excellent for chapped lips and cheeks.

For Burns.

A tube of unguentine a soothing and safe remedy, relieving pain instantly.

Bi-carbonate of soda.

If packages of antiseptic surgical gauze cotton and bandages cannot be afforded they can be made of clean soft

old linen. Every home should have a box or bag for laying aside clean old linen for use in the sick room.

A few miscellaneous remedies such as glycerine, mustard, vaseline, turpentine, olive oil.

Ipecac, aromatic spirits of ammonia and paregoric are frequently necessary remedies.

When convenient it is better to be advised by a physician, but the convenient home remedy when intelligently understood could never do harm.

For instance, take the **laxatives**. Epsom salts, citrate of magnesia and Seidlitz powder are salines. They give a prompt watery evacuation of the bowels and are used in cases of injury and acute illness and for general sluggishness of the digestion when it results in headache. They are beneficial when following a dose of calomel when it is given for biliousness.

The dose of **Epsom salts** is from one level tablespoonful for children to two level tablespoonfuls for adults; it is best given dissolved in twice its measurement of hot water; a few drops of lemon juice will disguise the taste.

Licorice powder in doses of from one level teaspoonful for children and three or four for adults, stirred up in water, gives somewhat the same results; under the same indications it is a nice laxative for older children.

Castor oil is an invaluable remedy for producing a cleansing speedy evacuation of the intestinal tract. It is especially valuable in treating infants and children suffering from indigestion due to improper feeding.

The dose is one teaspoonful for babies and one to two tablespoonfuls for adults. The sides of the glass should be rinsed with a couple teaspoonfuls of wine, orange juice, or diluted lemon juice; if the oil is dropped carefully in the center of the glass it will not stick to the sides. The

patient should be instructed to swallow quickly. For patients very sensitive about taking it, the taste can be disguised as follows:

Make a strong lemonade; put part of it in the bottom of the glass; add the castor oil; then the remainder of the lemonade. Just before drinking stir in a half teaspoonful of baking soda. Swallow while it is effervescing. This completely disguises the taste.

For infants, the dose should be measured in a spoon, which should be gently passed well back in the mouth and held there until it is swallowed.

Cascara sagrada has stood the test of years as a comfortable laxative for people suffering from constipation or sluggishness of the bowels so frequently a condition in people living an indoor inactive life. It is mild and slow but sure in action and should be taken in doses sufficiently large to produce results. The dose is from one to four grains. After the evening meal instead of at bedtime is the most satisfactory way to take it (see page 164). The bowels should move freely every day, but where nature does not do its work under normal conditions of food and exercise, the general health will be much benefited by careful attention to regularity of the bowels. Cascara is the one remedy used under such conditions, that tends to cure constipation; the dose can after a short time be decreased instead of increased through its not losing its action.

Tincture of Iodine.—For small abrasions of the skin and the protection of small wounds from infection, an application of iodine is now generally used. It produces a stinging sensation for a moment, when applied, which frightens children; they should be told that it will last but a moment and also will make the wound well. It is applied by twisting a little brush of cotton on the end of a tooth pick. It

should not be applied too wet as it spreads rapidly when applied (page 89).

Boracic acid solution is a safe antiseptic solution for washing eyes, mouth and wounds of any sort. It is made by dissolving one teaspoonful of the powder in one pint of boiling water. It can be kept in a bottle or covered pitcher and fresh solutions made up as needed.

Syrup of ipecac should be kept in every home with children. It is of great value in cases of croup, or convulsions due to indigestible food. In both cases, unless a doctor can be obtained in a very short time, any intelligent mother would be justified in proceeding to empty the stomach. A teaspoonful given every fifteen minutes until vomiting is produced in cases where immediate emptying of the stomach is necessary, as in mushroom poisoning, ptomaine poisoning, indigestible food, etc., could never do harm while prompt action could easily save a human life.

In cases of croup, ipecac is sometimes given to produce vomiting, which relaxes the spasm of the muscles that are causing the suffocation.

Aromatic spirits of ammonia is a safe quick heart stimulant. The dose for a child is ten drops; for an adult half to one teaspoonful in a little water, and is useful in cases of fainting or sudden weakness of the heart. It should only be bought in small quantities; when it turns dark it has lost its strength and should not be used.

Paregoric is equally important for emergencies but should not be given without a doctor's direction.

In these days of telephones and automobiles and hospitals within easy reach of even the country districts, emergencies are much more easily met than in former times.

Unguentine is an ointment and is applied by spreading it on a piece of suitable old linen or gauze. (For the treatment of extensive burns see page 114.)

Bi-carbonate of soda (baking soda) is useful for burns (one teaspoonful to a cup of water); also for a headache and sour stomach condition, one level teaspoonful to a glass of warm water is an excellent home remedy. If vomiting is desired, two or three glasses will wash out the stomach with excellent results. The soda dissolves the sour slimy mucus, covering the lining of the stomach which causes the headache and nausea.

Olive Oil and Turpentine.—Made up in equal parts is useful as an external application for colds in the throat and chest and for rubbing on the skin when hot turpentine stupes are ordered for pain in chest or abdomen. (See page 62).

Mustard should always be obtainable for use for plasters or for an emetic when it is necessary to produce vomiting. For an emetic the dose is one teaspoonful to a glass of warm water; enough water should be taken to produce vomiting.

Mustard plaster and turpentine stupes will be considered under the chapter on external applications.

With the home equipment there should be a clinical thermometer, a fountain syringe, a hot water bag, a medicine dropper a bath thermometer, a one-ounce medicine glass, and a suitable book of instruction on home nursing.

It is a wise precaution not to include such dangerous poisons as bi-chloride tablets and carbolic acid, lysol, etc., in families where children and individuals of excitable nervous temperaments could gain access to them. They are valuable antiseptics but where they are required, the condition is usually sufficiently serious for a physician to be in attendance, and he will supply them from his own

case. They should always have a large label marked, "Poison," and the name just as distinctly written with full directions for their use. If they are not so labelled throw them away or mark them distinctly.

Remember that the safer home remedies, such as boracic acid (one teaspoonful to a pint of boiled water), normal salt solution (one teaspoonful to a pint of boiled water), and tincture of iodine are safe remedies and meet almost every emergency resulting from cuts or injuries met with in home care. Even soap and sterilized water and a dressing of clean, old linen that has been boiled or sterilized are safer than to risk through ignorance the using of dangerous antiseptics.

For disinfectants, other remedies such as boiling water, chloride of lime, etc., are equally effective and much less expensive.

For Demonstration.

Use a properly equipped medicine cupboard.

Demonstrate how to prepare the different doses of medicine mentioned.

How to prepare boric solution.

How to apply iodine.

Review Questions.

How should epsom salts be given?

How should licorice powder be given?

When and how should cascara be given?

When and how should castor oil be given?

Give the size of the dose of each.

What is needed for dressing cuts or wounds and burns?

CHAPTER IV

THE SICK ROOM AND NURSE

The location in the house of the sick room is important for both patient and nurse. It should be a quiet room, open to sunlight and free ventilation. If the light is glaring, the bed should be placed so that the patient lies with his head toward the light to protect the eyes.

The convenience of the nurse also should be taken into consideration. In the case of old people, a cripple or a chronic invalid, the selection of a room on the first floor is desirable so that the patient may not suffer from loneliness and lack of convenience to the dining room. All unnecessary furniture, draperies and accessories should be removed from the room.

The sick room for contagious diseases should be on the top floor and farthest removed from other members of the family.

The Bed.—Wherever possible, put the patient in a single or three quarter bed. Wide beds make the handling of the patient much more cumbersome and laborious. Avoid using feather beds; they should be put aside whenever possible for the much more sanitary mattress. Every mattress should be protected by a quilted pad or cotton blanket that can be laundered.

To Make the Empty Bed.—Turn the mattress end to end. Put bottom sheet right side up and tuck well over the mattress at the head at least twelve inches so as to hold it firmly even if it should no more than reach to the edge of the mattress at the bottom. Then tuck in smoothly the sides and bottom. Until it is established

that the mattress does not need protection from becoming soiled, over the bottom sheet in the center of the bed should be placed a rubber sheet a yard wide reaching from side to side. If this is not obtainable a piece of table oilcloth will do equally well, and if that is not convenient, a pad of newspapers will make a very good protection. They should be removed at once, when soiled and fresh ones replaced. Over the rubber sheet or protector, a draw sheet is placed. This should be a sheet folded in half lengthwise; with the fold at the top place on the bed just below the pillow. Tuck enough in on one side to hold it firmly; all the remaining length is then tucked under the mattress on the other side. This allows drawing the sheet from side to side, so that the patient may have a fresh, dry spot from time to time, should perspiration make the sheet damp. It also allows easy changing of the sheet, if it should through accident become soiled, for it can so easily be removed.

Next, put on the top sheet, right side down and wide hem at the top. It should be well tucked under the mattress at the bottom so that it cannot pull loose and slip up.

Next, put on blankets and bed spread. These should be placed about where the patient's face naturally is and tucked neatly at the bottom. Turn the top sheet down over both, and put the pillows in place.

To make a good bed that will stay made, *all sheets should be cut three yards and six inches long.* This will permit at least twelve inches for tucking in at the bottom and allow sufficient length at the top for turning well down over the blankets or comforters and spread, thus preventing soiled edges.

The various kinds of surgical beds will not be considered here. A bed made as described will give the unskilled nurse a sufficient guide for the average case of illness cared

for in the home. The only exceptions may occur where large rubber protectors, the size of the mattress, may be needed.

Care of the Sick Room.—Much hard work and sweeping of bedrooms would be spared the busy housekeeper if the money spent on heavy carpets were used instead for laying good smooth floors that could be painted or polished and kept clean and sanitary. Even the rag rug which is so inexpensive can make a room look comfortable and the heavy sweeping and cleaning of a room ceases to be a dusty, hard task. However, when it has to be done in the sickroom, a sweeper should be used as much as possible; when the sweeping is done with a broom care must be taken not to raise the dust. A coarse, damp cloth fastened over the broom will take up considerable dirt and prevent raising the dust. Bits of damp paper freely scattered over the floor are also a means of preventing dust from rising. Dusting of furniture should be done with a damp cloth.

If there is a stove in the room, the noise of putting coal on the fire can be avoided by wrapping the coal in paper; made up in suitable packages much dirt and dust can thus be avoided.

All slop jars, soiled linen and waste of any sort should be promptly removed from the room.

Feeding cup or glasses, wash bowls and slop jars should be washed and scalded each day.

Unless there is plenty of bed linen for every emergency, soiled linen should be promptly washed, boiled and made ready for use.

“**Ventilation** is the process whereby impure air in a confined space, such as a room, is replaced with pure air.” Thorough airing of the room should be done both morning and evening. The patient should be covered well, and

an open umbrella can be held close to the face to prevent a draught. Likewise a screen or blanket can be suspended at the proper angle. Throughout the day and night a steady ventilation should go on from a window in the room or one adjoining, but heavy draughts directly over the patient should be prevented.

The temperature of the sick room for the average invalid should range from 65° to 72°F . At night a temperature of 55° is better for sleep, at which time extra blankets may be necessary. Aged invalids, very young infants and those who have poor circulation will require a warmer room.

Flies are dangerous vermin to allow in the house at all; because of their filthy habits and ceaseless activities they are especially dangerous in the sick room, and every means necessary to exterminate them and prevent their entering the room must be adopted. If good wire screening is not already in use, the common cotton mosquito netting makes a very good substitute. If this cannot be used on doors and windows, a covering of it for the bed must be properly adjusted to protect the patient and prevent their carrying the disease elsewhere.

THE NURSE

In order to properly *caré* for a patient, the nurse must take proper care of herself. Rest, recreation and out-of-door exercise are positive necessities. A nurse doing both day and night nursing should require in all at least seven hours sleep. If she cannot get it during the night she should be relieved for a good undisturbed sleep during the day. She should always dress herself warm and comfortably for night duty, and never neglect her bath and complete change of clothing. Dresses of light wash

material should be worn. Squeaking shoes and rustling skirts should not be worn; they may annoy the patient.

Never whisper in or near the sick room. Never discuss the patient's condition with her, or with any one else in her hearing. Never tell the patient what her temperature is or what medicines are prescribed and what they are given for. Never sit on the patient's bed, nor knock against it when passing. Do not startle a patient by speaking suddenly or loudly from behind her; ill or nervous patients are easily startled.

Preparing for the Night.—Do not allow windows or doors to squeak or rattle. Always provide a shade for the lamp or gas jet. Wrap ice in a flannel or paper to keep it from melting and use a hat pin for breaking ice; it will not make a noise when broken that way. Be sure of a free ventilation and have extra blankets for the night. Be sure the patient's feet are warm. A hot water bag if well covered will stay warm all night; it can be placed on one side of the bed and used as needed. See that everything that is needed is made ready for use. Prepare for the night and make up the cot before the patient is finally settled, thus preventing arousing the patient from her first sleep.

For Demonstration.

The necessary equipment for the average bedroom should be used.

Making the empty bed.

Discuss and demonstrate methods of ventilation and prevention of draughts.

Review Questions.

Describe a properly equipped sick room.

How should the bed be placed in the room?

Describe how an empty bed is made.

How should a sick room be cleaned?

What are the proper day and night temperatures of a sick room?

Why should the patient be protected from flies?

What rules should govern the nurse's personal care of her own health?

Mention some things she should not do.

How should she prepare for the night?

CHAPTER V

CARE OF EARLY STAGE OF ILLNESS

No one understands the temperament and disposition of a child so well as the intelligent mother. If she has the necessary technical knowledge to guide her any case of illness is safe in her care in the early stages at least.

Where the trained nurse is invariably called the problem of illness in the home is speedily solved; but in the home where all the duties fall upon one or two persons, how can the mother be advised to proceed with safety?

Except in cases of sudden intense pain (which will be discussed in another chapter), the usual signs of sickness are a more or less *gradual loss of strength, appetite and activity*. Sometimes there is pain and rise of temperature to indicate the trouble, and just as frequently there is not. In either case, where health is below the normal condition, and remains so, the only safe procedure is to consult the family physician.

The acute diseases are most frequently met with in children. Nearly all are characterized by the usual loss of appetite, nausea or vomiting, sometimes sore throat and usually rise of temperature. These symptoms may be more or less present in a simple indigestion so common in children; on the other hand, they may indicate the beginning of a serious illness.

The one important thing to do at once is *give the patient a bath and a suitable laxative and put him to bed*. Citrate of magnesia, epsom salts, seidlitz powder or licorice powder are the best laxatives under these conditions

for older children and adults, except in the case of biliousness where nausea and vomiting are present it would be then wise to consult the doctor by telephone. It is important to see that a bath has been taken and the patient put in a clean bed, for the busy mother can then feel sure that all necessary cleanliness for a short illness has been observed. Producing a good sweat in the early stage of acute attacks can never do harm. It is of special value in the onset of cold, tonsilitis, grippe or influenza.

The hair should be combed, face, hands and teeth washed each day, and if developments prove an inevitable illness, the patient is in good condition for examination by the doctor or for sending to the hospital.

If, however, the patient does not feel better, after the laxative has moved the bowels and if pain or temperature then persists after a few hours, the family physician should be called at once.

Much extra work can be avoided if the patient is from the first put to bed in a room suitable and convenient for caring for sickness. It should always be a room that will admit plenty of sunlight and air, and where the patient can be kept quiet and undisturbed. It is also a wise precaution to keep other members of the family out of the room, both for the comfort of the patient and safety of the family in case a contagious disease is developing.

The doctor will be greatly aided if the person attending the patient can state whether or not at any time a rash on face, arms, or chest has appeared; if there has been any sore throat or vomiting; if the bowels have moved freely; the frequency and amount of urine; where the patient is suffering pain and the position he finds most comfortable to lie in. After the diagnosis is made, the mother can definitely arrange for the nursing care of the patient.

CHAPTER VI

THE PATIENT—NURSING CARE

In the very earliest stages of a disease there are but few exceptions where (at least until the doctor has had time to make a diagnosis) it would harm the patient to sit up long enough to attend to the demands of nature, especially in caring for the results of the first laxative.

The inexperienced nurse will always find newspaper valuable for protecting bed or floor if hastily thrust into place where sudden or unexpected vomiting does not allow time enough for bringing a basin. It can likewise be used for sudden evacuation of the bowels. In cases where the patient is too ill to rise and there is as yet no bed pan for use, the emergency[■] can be met by rolling a folded sheet or cushion and placing it well under the back so as to raise the hips three or four inches from the bed. A newspaper can be placed over it, allowing it to extend down into the bed to protect both in case of accident. Then an ordinary bedroom chamber can be held firmly into place through the elevation of the hips by the thick pad.

The daily care of the patient will now proceed along the usual routine of bath, care of hair, teeth and nourishment. If the patient has had a good bath before being put to bed, a daily bath for cleanliness is not an actual necessity; it merely makes the patient more comfortable for it rests the weariness due to lying in bed. If, however, there are profuse sweats or high temperature, a daily bath should be given. Under ordinary conditions a cleansing bath and bed changed twice a week will keep a patient clean and comfortable.

Each day the hair should be combed and the face, hands and teeth washed and the back rubbed with dilute alcohol, the sheets stretched and crumbs brushed out. The very good nurse will do this in the morning and also when preparing her patient for the night.

The care of the patient's back is a very important thing. In cases of fracture of the leg or thigh or any injury or illness compelling a long period in bed, the prevention of bedsores is a test of good nursing. The general care, therefore, requires that both morning and evening the patient's back should be washed with soap and water, and rubbed with alcohol diluted with two parts of water. Wrinkles in the sheets should be carefully smoothed out, and the draw sheet drawn through so that the patient rests on a smooth dry sheet. This is one of the cases where the rule that "an ounce of prevention is worth a pound of cure" is well proven. Bed sores will be discussed later as a separate subject.

The Cleansing Sponge Bath.—The room should be warm and free from draughts. Everything necessary for the bath should be made ready before beginning—hot and cold water, soap, two wash cloths, towels, slop jar and fresh linen. Unfasten the bed clothes at the bottom. Remove the bed spread and top sheet and extra blanket, thus leaving the patient covered with one or more blankets as sufficient for necessary warmth. If the patient is asked to hold the top of the blankets the sheet can be slipped out much more easily; remove all but one pillow. It is much safer for the unskilled nurse to place an old or thin blanket under the patient to protect the under sheet; a large bath towel will answer the same purpose. Turn the patient on her side for the placing of the bath blanket and removal of one side of the gown; push the gown up to the shoulders and slip the arm out of the sleeve; turn

her to the other side and finish removal of gown and straightening of the blanket. Spread the face towel over the pillow under the patient's head; bathe the face first, then the ears and neck and dry well; use a firm, even stroke; dabbing about is very disagreeable; it makes the patient nervous. The face towel and wash cloth may now be put aside and kept for that purpose.

Next fold back the blanket; place the towel under the arm and shoulder and bathe and dry the arm, giving special attention to the axilla; recover the arm, and so proceed with the other arm; then the chest, abdomen and legs, uncovering one part at a time. The water should be kept warm and changed at least twice during the bath. After the legs have been bathed turn the patient on her side toward you and bathe the back; dry well and rub with dilute alcohol. The feet should be placed in the basin, one at a time, as should also the hands; this is very refreshing to the patient.

Unless too ill or unconscious, the patient is then given a wet soapy wash cloth, kept for the purpose (or a piece of soft, old linen which can be thrown away after use) to "finish off with," after which her hand should be rinsed with fresh water.

After the bath the teeth should be brushed. An ordinary soap dish makes a good receptacle for the patient to spit into, if a small basin is not available.

The hair is then combed and should be parted from forehead to neck in the center and braided in two braids. If by any neglect it has become matted, wetting with alcohol will help to disentangle it more easily. In the case of a very ill patient the doing of a small portion at a time is sometimes necessary. Hold the hair firmly in the hand; begin to brush at the ends of the hair and gradually work toward the head. Fasten the braids so that they do not unbraided.

If a patient suffers from cold feet while the bath and changing of the bed is in progress a hot water bottle should be placed at the feet.

To Change the Sheets.—The patient is turned on her side as far to the edge of the bed as safety will allow. Keep carefully covered with the blankets. Loosen the draw sheet and roll it up close to the patient's back; likewise the protector; then loosen the under sheet from all the edges and roll it over close to the patient. The clean sheet is either folded or rolled to its center, and placed close to the sheet being removed, and the top and loose edge and bottom is smoothly tucked under the mattress; over all, pull out and put in place the rubber protector; over it place the draw sheet; tuck this well under the mattress.

The top sheet folded lengthwise can be used for the draw sheet if the bed is changed often enough so that it is not soiled. Now turn the patient over all to the other side of the bed and fasten the sheets in their order on the other side, stretching and fastening them firmly.

Next put on the night gown. Patients that cannot be turned should wear gowns open down the back. To put on the usual gown, put the arms in the sleeves, raise the head and shoulders and slip the gown over the head; pull down smoothly under the shoulders and back.

To remove a soiled gown and put a clean one on at the same time, bring the gown well up under the shoulders on one side of the patient; the arm is taken out of the soiled garment, and the corresponding clean sleeve is put on and both garments slipped over the head; this slips the soiled gown off and the clean one on.

If the patient is weak and an undershirt is worn under the gown, fit one garment inside the other before putting on.

In case of an injured side or arm, remove the sleeve of the soiled gown on the well arm first, and in putting on the clean gown put the injured arm in the sleeve first.

Finger and toe nails should be kept clean and short, to prevent their becoming a hiding place for dirt and germs.

The nurse now finishes making the bed. The fresh sheets should be warmed. The extra blankets and pillows



FIG. 12.—Removal of soiled pillow with the fresh one in proper position.

removed while giving the bath should be shaken up and aired in the meantime. The top sheet, placed right side down and wide hem at the top is spread over the bath blanket, and the patient if not too ill may be instructed to hold it in place while the blanket is drawn from underneath, thus preventing exposing the patient, which a good nurse never does. Then the blankets and bed spread are added and care should be taken not to tuck them too tightly over the patient's feet at the bottom. Arrange

the corners neatly, and fold top sheet down nicely over the blankets and spread.

To change a pillow, place the fresh one at the head of the bed where it can be easily reached. Slip your hand down under the patient's back between the shoulder blades and lift the patient gently; slip the pillow out with the other hand, lay it aside and slip the fresh one into place. The head of an unconscious patient should not be allowed to fall forward as it may obstruct his breathing. If two pillows are used the first one should go just under the edge of the shoulders; the second one should go under the head only. However, the patient can be consulted as to just which arrangement of pillows is most comfortable and a nurse very readily observes when a patient looks comfortable.

As few people are left-handed, the nurse will work with greater ease if she can arrange the position of the bed so as to work right-handed to the patient, and she also should be able to reach three sides of it.

After the bath and the making of the bed is completed, air the room and remove all slops and soiled linen. Do the necessary cleaning and dusting. The patient should then be given some warm nourishment and she will usually then fall asleep and have a refreshing nap.

Every precaution should be taken to prevent noise or any member of the family disturbing or waking the patient, for much is gained in such periods of rest and sleep.

For Demonstration.

The cleansing sponge bath, brushing the teeth, combing the hair and changing the bed linen. Putting on and removal of the night gown. Arranging the pillows, etc.

Review Questions.

How can one manage without a bedpan?

How often should a patient be bathed and given the daily care necessary to make a patient comfortable.

Why is special care of the back necessary?

What articles are required for giving a bath?

How would you prepare the patient for a bath?

Describe the usual order of bathing the body.

How should the hair of a bed patient be combed?

Describe how the sheets are changed for a bed patient.

Describe how the soiled gown is removed and a clean one
put on.

How would you change a pillow?

CHAPTER VII

THE PATIENT—NURSING CARE (CONTINUED)

The technical nursing care possible to be given by the unskilled nurse, will include taking and recording the temperature, pulse and respiration. This will require learning how to read the clinical thermometer accurately; also how and where to obtain a proper registration of the temperature.

If the patient is fully conscious and there is no chattering of the teeth or delirium, the mouth is the most convenient place. First shake the mercury down to 96° using care not to strike it against anything. Place the bulb of the thermometer under the tongue; the patient must be told not to open the mouth or speak for the cold air will prevent an accurate registration of the temperature.

To take the temperature of very weak patients, of unconscious or delirious patients and of children, the axilla or groin or rectum are the safest places; care must be used to protect the thermometer and it will require about five minutes for it to register accurately. The temperature of an infant should be taken in the groin or rectum.

The Axillary Temperature.—This will be from three-tenths to half a degree lower than the mouth. The arm pit is wiped dry; the thermometer is placed in the hollow and kept in place by folding the arm over the chest with the hand resting on the opposite shoulder. Five minutes should be the rule for a safe registration.

After using a thermometer it should always be washed in a solution of boracic acid and returned to its case. A

few drops of carbolic acid in a glass of cold water is also a good disinfecting fluid for the thermometer before it is used for taking the temperature of another person.

The normal temperature of the body is 98.6°F . It is usually about a degree lower in the morning. In aged people it is normally a degree lower. In children and infants it is about a degree higher than the normal average. Temperature above 100° indicates some functional disturbance, especially if it remains above that for longer than twenty-four hours.

A subnormal temperature is far more dangerous than the same number of degrees above normal. If a patient's temperature drops to 97° and remains there, she should be wrapped in an extra blanket and hot water bags applied placing one over the heart; a cup of hot coffee or tea should also be given. If it does not respond under this treatment the physician should be consulted, at least by telephone.

In cases of shock following injury or the crisis in a case of pneumonia the subnormal temperature is a critical condition, and the most intelligent and untiring care must be given the patient until external heat and stimulation bring it up to normal.

Pulse.—The normal pulse rate is 72 beats to the minute. This varies in nervous excitable people. In babies during the first year it varies from 105 to 120; as childhood advances it is about 100 to the minute at the age of five; at ten years 80 to 90 may be considered an average normal pulse rate. Exercise and excitement influence the pulse rate and rise of temperature or high fever shows a more or less rapid pulse ranging from 110 to 140 or 150 per minute.

A watch with a seconds hand is the only accurate means by which to count the pulse and respiration.

Place the index and middle fingers on the wrist where the radial artery can be easily felt. When the wrist cannot be reached the temporal artery just in front of the ear can be easily felt, also the artery in the groin. Count the pulse for a full minute and without removing the fingers from the wrist count the respiration during the second minute. The patient will not breathe naturally if permitted to know that the respiration is being counted.

The temperature and use of the clinical thermometer and taking the pulse and respiration can only be properly learned by demonstration and practise; unless it is done accurately the effort is worse than useless.

The home nurse should learn to take the temperature regularly and as often as the doctor orders it; the simplest method of recording it should be practised. (See p. 124.)

It is a bad habit to take the temperature under every slight pretext if when any member of the family is slightly indisposed. It is not wise to become an alarmist, for much can be imagined that does not exist and never will occur. Temperature is present as a rule only when there is a decided indisposition of twelve or twenty-four hours' duration; it is then quite time enough to take it and make a record of it for the aid it will be to the doctor.

Respiration.—In adults the normal respiration is 18 per minute. It varies in infants and children. During the first year a baby's respiration is from 24 to 44; from five to fifteen years the normal rate is from 20 to 25; excitement or exertion increases the rate and high temperature increases the rate in proportion.

Care of the Mouth.—In addition to temperature, pulse and respiration, the home nurse must learn to care for certain inevitable conditions which will arise. One of the technical points for a nurse to learn that is common to all cases of fever, is the care of the patient's mouth. With-

out care a thick brown coating, called *sordes*, will form on the teeth, and the tongue will become coated, parched and cracked. It is almost impossible to use a tooth brush under such conditions even though it is a small soft one; if one is used it should be scalded frequently and kept in boracic acid solution.

The method that seems to stand the test of experience is as follows: Wrap a small square of gauze around the index finger, wet it with a mouth solution and carefully wipe teeth, tongue and mouth, using as many fresh squares as seems necessary, always disinfecting the hand afterward. A very good mouth wash is made of three parts boracic acid solution, glycerine one part, and a little lemon juice. Listerin and water or equal parts of glycerine and lemon juice (using one teaspoonful of the mixture to a half glass of water), also makes a good mouth wash.

When the tongue and lips are parched, wash the mouth with glycerine or sterilized vaseline or aboline every few hours. If the throat seems dry a teaspoonful of either may be swallowed; it will relieve the distress the dryness causes; this can be repeated every few hours.

The utter weariness of the ill patient lying in the same position must be relieved (unless pain prevents) by turning, and change of position.

Often *backache* and "*fidgets*" can be relieved by rubbing the back and flexing the knees and placing a plump pillow underneath. This will often put a nervous or restless person to sleep.

To turn a patient in bed, slip one hand well under the shoulders and the other well under the hips so that the hands reach to the spine. Lift slightly and roll her over. Then from the other side of the bed slip one hand under the hip and the other under the buttock; get a firm hold of the hip bone and pull the hips gently toward you, lifting

slightly at the same time; this gives the necessary bend of the body for comfort. A weak patient can be supported by tucking a pillow firmly against the back.

To lift a patient up in bed, have the patient flex her knees well so that the soles of the feet rest firmly on the bed; slip your hands under the shoulders just below each arm pit and raise the patient, instructing her at the same time to push upward by raising the hips with the heels and thus throwing the weight on them, Fig. 13.

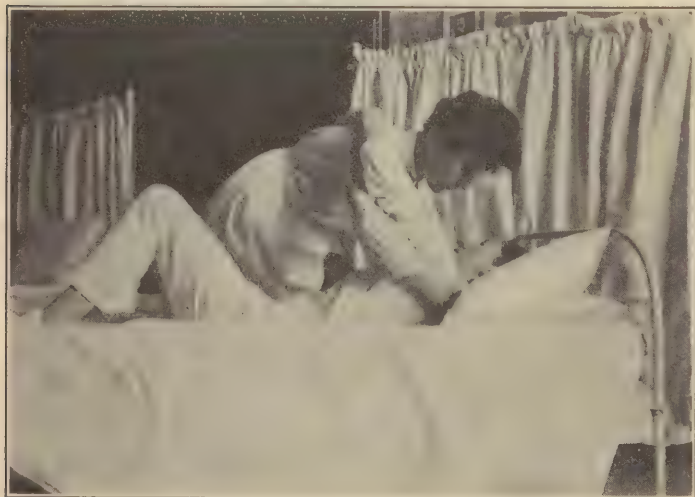


FIG. 13.—Lifting the patient up in bed.

(Patient uncovered so as to show the position of feet and knees.)

A very weak patient will constantly slip down in bed, and it requires two persons to raise such a patient unless she is very light in weight. One person stands on each side of the bed, each with one hand under the shoulder and the other under the hip below the buttock. Together they partly lift and pull the patient up.

A back rest for sitting the patient up in bed is seldom found in the home. A straight-backed chair will answer

nicely for a bed rest; the chair is placed upside down with the back next to the patient; one pillow should be placed well down in the small of the back, another is placed above the head and shoulders.

A clothes horse when covered with a sheet or blanket makes a good bed screen for preventing draughts.

A Bed Cradle.—A barrel hoop cut in half and fastened at right angles in the center makes a good bed cradle to protect an injured foot from the weight of the blankets. It can be wrapped with cloth or a bandage and the ends cut off short enough to make the desired height. Both large and small extra pillows for propping up an elbow or putting under the ankle for raising the heel to relieve the pressure, etc. are always needed in nursing, and give much comfort to the patient.

Bed Sores.—Patients who are old, who have poor circulation, who are paralyzed; who have involuntary bowel movements and urination, who because of fracture of back or hips have to lie still on a hard bed and also patients who are thin and often patients with fever, easily develop bed sores. They are apt to come at the lower part of the backbone; over the hip bones; over the shoulder blades; they may occur on heels, elbows, ears, and even on the back of the head.

Except in the rarest exceptions a bed sore indicates poor nursing. They are due to pressure which interferes with the circulation; also to moisture and lack of cleanliness and wrinkles in the sheet. They may be averted by the constant use of the air cushion, by the frequent change of position and by bathing the red spots with soap and water twice a day and rubbing gently with alcohol, (to which has been added some alum) and powdering with starch, rice or talcum powder. In aged people or when the circulation is poor, the spots should be rubbed

several times a day, and oftener when there is great emaciation.



FIG. 14.—Rubber air cushion.

Rings made of cotton batting wound with a bandage, or small pillows, should be used for heels and elbows; the rubber air cushion should be used for the back and hips. Air cushions need not be inflated more than is necessary to relieve the pressure.

Crumbs should always be brushed from the bed; sheets must be kept dry and frequent attention given spots when redness indicates threatened danger. *Under no condition* should a patient be allowed to lie long in a soiled bed. In cases of incontinence of urine or feces, because of the moisture, some substance that will resist water, such as zinc oxide ointment, mutton tallow, or olive oil and carbolic acid, 1 per cent. should be used on the spots.

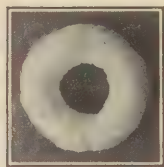


FIG. 15.—Cotton ring for heel or elbow.

If, however, a bed sore should develop, the unskilled nurse should be taught by the physician or trained nurse how to dress it properly. Bed sores are so slow in healing, and are so troublesome for both patient and nurse, that too strong emphasis cannot be placed upon the value of the necessary care required to prevent them from developing. Remember that they are nearly always due to poor nursing care.

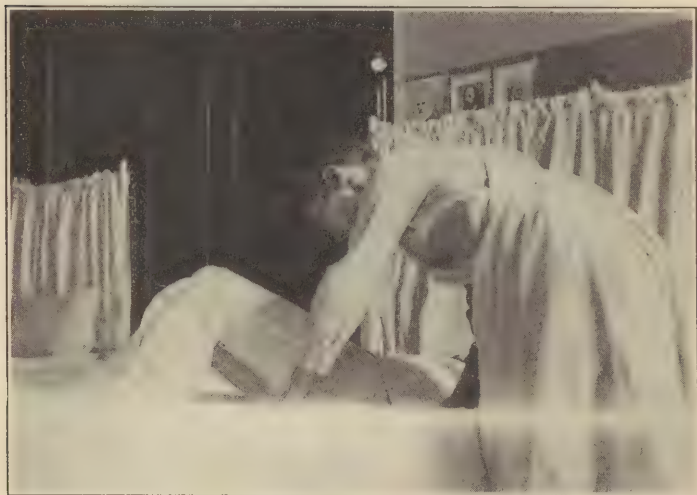


FIG. 16.—Position of patient's knees for raising the hips for the adjustment of a bedpan, air cushion, or the drawing of the sheet.

The Bed Pan.—It is a necessity in most cases of illness. The recently invented “Preferred” enameled bed and douche pan is far more comfortable and sanitary than the old-fashioned one with a spout. The prominence of the backbone varies so much in patients that in some cases lying on the bed pan is very painful, for the bones soon become sore and sensitive and red; they become the kind of cases that without care develop bed sores. A soft

pad should be placed over that part of the pan to protect the sensitive back from the hard surface.

In placing and removing the pan, request the patient to flex the knees and raise herself. The back should always be supported; one hand is slipped under the hips while the other slips the pan into place. Neglect of this detail will cause much discomfort and may cause bed sores.

Always warm the pan by running warm water over it and cover it in passing to and from the room for emptying. After it has been used, cleanse the parts with toilet paper. It is a great comfort to the patient then to be wiped clean with a wet cloth kept for the purpose, or a piece of old linen which can be thrown away after using.

In the case of a male patient, a wide mouthed quart bottle or an old fruit jar will serve as a urinal.

An **alcohol rub** may follow a bath or may be given in place of it. As in giving a bath, a firm even stroke should be practised and special attention given to the back, for a continued back rub is most soothing to the bed weary and nervous invalid. Wet the hand just enough so as not to drip and rub until the skin is dry and warm. On the arms and legs use two hands for rubbing. Flex the knees so that you can cover both sides of the legs with the hands at once and practise a long firm even stroke.

To wash the hair of a bed patient, move the patient's head to the edge of the bed and place a small pillow under the shoulders so that the head drops down a little; place a small rubber sheet well under the head and shoulders; the edges should be rolled up on each side so as to form a rim; place the ends of the sheet in a slop jar. Bring the hair from under the neck and wash with warm water and plenty of soap. Rinse the lather from the hair by pouring water from a pitcher; reduce the temperature gradu-

ally until it is cool. Dry the hair by rubbing with the hands and hot towels.

The Chronic Invalid.—They if possible should occupy a room on the first floor, convenient to dining room, living room, and porch if able to get up into a chair each day.

The shortest road to success in nursing the chronic patient is found by putting yourself in the patient's place; imagine how things would look to you and what you would like.

Remember especially the long hours of tedious inactivity with nothing to think about except herself and her ailments.

Be sympathetic in listening to her troubles but always lead away from the subject as soon as possible.

Always encourage her in the hope of recovery, reminding her that nearly every one eventually gets well.

If possible, change the location of the patient's bed occasionally and freshen up the room with something attractive to look at.

Remember that a bedfast patient must have the mattress turned or changed occasionally. To do this a couch or bed can be placed close to the bed and the patient rolled onto it, or she may be lifted from bed to couch. Place the couch at right angles with the bed, and as near as possible to it, the head being placed toward the foot of the bed. *At least two people should do the lifting.* One should put an arm well under the shoulders and the other arm under the waist; the patient will aid greatly if she puts her arms around the shoulders of the nurse, and holds her grip as firmly as her strength allows. The other person supports and carries the hips and thighs. Be sure that your hold is firm, and each person should know just what is to be done. This procedure also applies to lifting an invalid

into a wheel or rocking chair, as well as to putting her back to bed or moving her into another room or fresh bed.

While the patient is sitting up the mattress should be turned, blankets and pillows aired and if possible put in the sun.

Remember that persons long ill magnify trifles; they become of tremendous importance to them. The members of the family should observe what the patient is able to do and every effort should be made to interest them in doing something even if it be the most trifling thing. Friends whom they enjoy should be asked to make the occasional visit.

Variety of diet should be studied and every effort made to encourage the appetite by tempting and nourishing food.

A glass of water should always be placed on the tray when taking either medicine or food to a patient. The rule of giving a patient a sip of water after giving nourishment of any kind should always be observed. It aids greatly in keeping the mouth clean and prevents the disagreeable after taste of food. (See Rules for Serving Food, page 235.)

For Demonstration.

Temperature. Pulse. Respiration. Cleansing the mouth. Turning the patient. Lifting the patient. Sitting up in bed. Improvising a screen. Bed cradle. Care of bed sores. Rubber rings. Cotton rings. Placing and taking away the bed pan. Alcohol rub. Washing the hair. Sitting up out of bed. Lifting from bed to couch. Airing the bed.

Review Questions.

What is a normal temperature, pulse and respiration—for adult? for child?

How is a patient turned in bed?

How is a patient lifted in bed?

How would you improvise a screen? Bed cradle?

What is the important thing to observe in giving or removing the bedpan?

What kind of cases are predisposed to bed sores? How are they prevented?

What would you chiefly observe in giving a patient an alcohol rub?

How would you wash the hair of a bed patient?

How would you move a patient from a bed to a couch?

What should always be placed on a tray with food or medicine?

CHAPTER VIII

METHODS OF TREATMENT

In almost all cases of illness in the home the nurse will at some stage be called upon to give an enema to move the bowels. In many cases of illness, treatment by rectum through the various kinds of enemata is one of the important methods. They are given for purgative action; to relieve flatus (gas); for stimulation; for medication.

For emptying the rectum the fountain syringe or irrigation can is used. The tip should be kept clean and both bag and tip sterilized occasionally.

The Simple Enema.—Prepare from one to two pints of soapsuds made from ivory or castile soap; the temperature should be about blood heat (98°). Always have the bed pan at hand before giving the enema. Protect the bed with a towel or small rubber square or newspaper pad; have the patient lie near the edge of the bed on the left side as the large intestine lies on that side of the pelvis. Cover the patient allowing only the buttock exposed while injecting the water. Oil or smear the nozzle with vaseline or soap; first allow the water to run from the tube into the pan to expel the air and cold water in the tube. Pinch the tube near the tip to stop the flow, insert the nozzle into the anus forward for the first two inches and then backward and allow the water to flow slowly, pinching the tube when griping occurs. After the griping let the water run again and continue thus until nearly two pints have been taken.

The can or syringe should not be hung more than a few inches above the patient's head. The more slowly it is

given, the more effective it will be. Encourage the patient to take as much water as she can and to retain it as long as possible. Pressing against the anus with a towel will help the patient to retain the water longer and also will help to relieve the distress.



FIG. 17.—Irrigation can with rectal tube attached.

The High Enema.—This is given for a variety of purposes because in many cases it is necessary to inject the fluid beyond the sigmoid flexure which is about eight inches up. Below this point the mucous membrane of the bowel is not capable of absorbing liquids, so that it can readily be seen that it is important to follow directions accurately. A soft rubber rectal tube is sterilized and attached to the rubber hose of the syringe. It is well oiled and passed into the bowel by gentle pressure at least eight

inches. For a cleansing enema the same procedure is followed as in using the small tip. For the nutritive or normal salt solution enema, the patient lies on her back and a small glass or tin funnel is attached to the end of the rectal tube instead of the bag.

For Stimulation.—The *normal salt solution* enema is most commonly given; (one teaspoonful of salt to one pint of water) this is slowly poured from a pitcher into the funnel; about one pint is thus slowly irrigated into the bowel. It is retained and absorbed and is intended to increase the volume of blood; it must be given warm and the pitcher containing the solution should be wrapped to keep it warm or stood in a basin of warm water while giving; the funnel should not be allowed to completely empty or air will be carried into the bowel.

This is the usual procedure used for giving any one of the various kinds of enemata.

In the absence of a rectal tube or a large rubber catheter the nozzle can be taken from the fountain syringe, and the soft tubing used instead. This, however, is a poor substitute for a rectal tube.

A starch enema given to check diarrhea is prepared as for laundry starch. It should not be too thick to flow easily through the tube; the usual quantity is three ounces of starch, to which is added twenty drops of laudanum.

Turpentine Enema.—One ounce turpentine to one pint of warm soapsuds.

Nutritive Enema.—It consists of milk, four ounces, white of egg, and perhaps one-half ounce of whiskey. They should always be peptonized first, and injected very high in the bowel.

Douches.—A douche is a stream of water, directed against a part or used to flush a cavity for purposes of cleanliness or relief of inflammation or hemorrhage.

Vaginal douches are given for cleanliness or for the relief of inflammation.

For cleanliness, from one to three quarts of warm water are used.

For inflammation, the patient should lie on her back in bed and use a douche pan or lie in the bath tub. The temperature of the water should be at least 110° or as hot as can be borne; it should be tested by a bath thermometer or by a stream directed against the inside of the arm. From three to six quarts of water should be taken and the stream allowed to run very slowly at a low pressure. It requires fifteen minutes to take it properly. The glass nozzles are best and should be boiled either before or after using.

The hands should be washed in soap and water and scrubbed with a nail brush before taking or giving a douche.

All rubber syringes and hot water bags should be emptied and hung up to drip until perfectly dry.

Aural or Ear Douche.—The glass part of a medicine dropper attached to a fountain syringe is the best nozzle for it allows the water to flow in a thin slow stream, but a bulb or Davidson syringe can be used if necessary (p. 207).

Catheterization.—It requires actual experience to learn the technique of catheterization. The inexperienced home nurse may learn the preparation for it, however, and in cases where much suffering is caused by the physicians inability to relieve the patient as often as may be necessary, it is quite possible for him to teach the home nurse how to catheterize if she has previously been taught the proper way to *prepare for it*. This can be done by demonstration in the class work; she should refresh her memory by reading the directions should she be called upon to use her knowledge of such preparation.

First, surgical cleanliness must be observed. Two glass

catheters, and about four cotton sponges should be boiled in a basin five minutes; then pour off nearly all the water so that they cool enough to use after taking them to the bedside. Place a bedpan close to the patient or use a urinal. Some cold boracic solution in a pitcher for cooling the sponges may be needed and a basin of bi-chloride 1-1000 for sterilizing the hands. All should be placed on a table near the bed. The nurse next scrubs her hands with soap and water and immerses them in the bi-chloride solution. Passing the catheter requires instruction and actual experience and must be taught by a physician or trained nurse. It is of the greatest importance to follow every detail accurately, for an infection of the bladder is a serious and painful complication.

Poultices and fomentations are applied for the relief of localized pain caused by inflammation. The heat by dilating the superficial blood vessels draws the blood from the congested area.

The flaxseed (linseed) poultice. Have sufficient boiling water in a sauce pan and stir into it sufficient meal to make it thick enough to drop from a spoon. Remove from the fire and beat it briskly. Spread one inch thick on a piece of old muslin, leaving at least an inch margin all around which is turned back over the poultice; next place over it a couple thicknesses of gauze or one of cheese-cloth. Roll in a piece of wax paper cover and take to the bedside. Test the heat of the poultice against your own face first. When applying it, place your hand under it, and gradually withdraw it; this will gradually accustom the patient to the heat which may startle him if it is applied suddenly. Over the poultice place the sheet of wax or plain paper and a flannel pad, and bandage loosely if necessary to keep it in place. The poultices should be renewed every one or two hours. A cold poultice does harm instead of relieving pain.

A hot water bag may be laid over a poultice or stupe to keep it hot; this is an excellent plan if the weight does not cause discomfort.

In cases of wounds having an offensive odor or discharge



FIG. 18.—Wringing a hot stupe in a towel.

pulverized charcoal in proportion of one part to two of the meal is added to the flaxseed poultice; it absorbs the odor and promotes a healthy condition.

When renewing a poultice or hot fomentation of any kind, *always take the fresh one to the bedside before removing*

the cool one. After they are discontinued, wipe the skin dry and place a flannel over the part for a day or two.

Hot Fomentations or Stupes.—A hot water stupe is several thicknesses of coarse flannel folded into a pad twice as large as the area to be covered. Place it in the middle of a towel; hold the ends of the towel in your hands while you dip the enclosed flannel in a basin of boiling or very hot water; wring out by twisting the ends of the towel

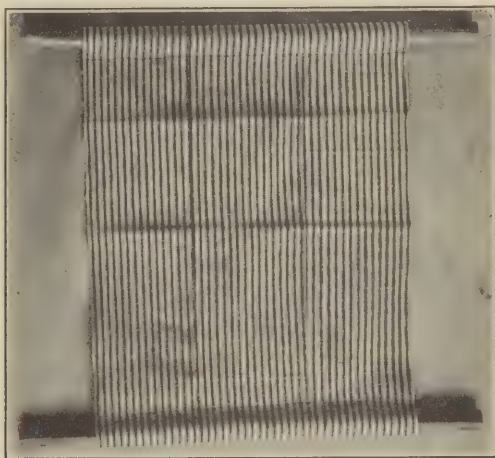


FIG. 19.—A stupe wringer.

in opposite directions until it is dry enough not to drip. It is taken to the bedside without untwisting, then opened and shaken to liberate the steam and applied as hot as can be borne. It will cool quicker than a poultice; therefore, it should be covered with a thick piece of flannel or oil cloth larger than the stupe flannel. They should be changed every twenty or thirty minutes unless kept hot by placing a hot water bag over it.

A stupe wringer is made by taking a piece of heavy towel-ing or ticking at least two feet long and putting an inch hem in each end. A round stick the size of a forefinger is

slipped through. The flannel is placed in the center and the sticks twisted in opposite directions.

Turpentine stupe are frequently ordered for abdominal distention, and congestion of the lungs. The best way to proceed is by mixing one part of turpentine to two of olive oil or lard; apply this to the skin, renewing every six hours. Apply the plain hot water stupe over this; there is less danger of burning the skin with the turpentine by using this method. After the stupe is discontinued, a warm flannel should be placed over the part for twenty-four hours after.

Mustard Plaster.—Mix one teaspoonful of mustard and six teaspoonfuls of wheat flour in a bowl. (Unless a large plaster is needed, use level spoonfuls.) Wet the mixture with enough warm water, white of egg, or vinegar, to make a smooth paste. Spread on a thin cloth, turn the edges and cover the top with another cloth. Mustard is left on from five to twenty minutes or until the skin is nicely reddened. Blistering should always be prevented, for it heals slowly. Oil or cold cream should be applied to the skin after the plaster is removed.

Tincture of Iodine.—This is one of the common counter-irritants. Apply with a camel's hair brush or twist a bit of cotton on a toothpick. Do not have it too wet for the iodine runs. Paint evenly with firm strokes and do not go over it the second time. If repeated, the second day, paint in the opposite direction. For a sensitive skin it must be used half strength and if it smarts badly, sponging with alcohol will relieve it.

Liniments contain slightly irritating ingredients and should be applied with brisk rubbing.

Dry Heat.—Commonly used for relieving pain and subduing inflammation. It is usually applied by means of a hot water bag, hot plates or bricks; a bag of salt or

sand heated in the oven will stay hot a long time if kept well covered. *Glass bottles are dangerous to use.* A hot water bag should not be filled more than two-thirds full; grasping the top of the bag to expel the air before the top



FIG. 20.—Expelling the air from a hot water bag while screwing on the stopper.

is screwed on will cause the bag to lie flat, and also eliminate the danger of its bursting from steam expansion.

It is of the greatest importance to warn a nurse of the danger of burning a delirious or unconscious patient with hot bottles or bricks. A thickness of blanket should

always be placed between the patient and bottle; the water in the bottle should never be hotter than one can bear the hand in, and even then they should be watched and moved frequently; never depend upon the word of a delirious, feeble or paralyzed person, but investigate for your own satisfaction and follow the rules for applying such heat implicitly.

Wet applications such as lead and opium wash should be wrung out dry enough not to drip; apply to the parts and then cover well with waxed paper and hold in place with a bandage; the compress should be changed often enough to keep it wet.

Cold Applications.—Like hot applications, these are applied to reduce inflammation and must be continuously applied.

Ice bags need frequent attention, for the cracked ice melts rapidly. Place the ice in a thick crash towel or cloth and break with a mallet or wooden potato masher into pieces small enough to be put into the ice bag. Do not fill it more than half full. Wrap the bag in a thin towel so that at least two thicknesses protect the skin from the icy cold. They should never be allowed to get warm for the effect of the cold application is then lost.

Cold Compresses.—When applied to the eyes to keep down inflammation, the constant attention of one nurse is required. Gauze squares about four or five layers thick and two inches square are placed on a block of ice; they are squeezed dry enough not to drip and applied to the eye; they should be changed every one and a half or two minutes. A good supply of them should be kept on the ice and when applied for a virulent infection they should not be used a second time but dropped in a paper and burned. The faithfulness of the nurse in such cases may mean the saving of the patient's eyesight.

For Demonstration.

Preparation and the giving of enemata.

Preparation of a douche.

Preparation for catheterization.

Poultices and hot fomentations.

Mustard plaster. Application of iodine. Expelling air from hot water bag. Preventing burns from hot water bags.

Filling and application of ice bag. Cold compresses to the eye. Cold compresses.

Review Questions.

For what are enemata given?

Describe how each are given.

What is a douche?

How would you give an ear douche?

What preparation is necessary for catheterization?

What are poultices and hot fomentations applied for?

How would you make a flaxseed poultice?

How would you apply it?

Why should a hot stupe be wrung in a towel or a stupe wringer?

How would you make a turpentine stupe?

How would you make a mustard plaster?

How would you apply tincture of iodine?

How would you place the hot bottles or bricks about an unconscious or delirious patient?

How would you fill and apply an ice bag?

How would you apply cold compresses to the eye?

CHAPTER IX

HOT AND COLD PACKS; COLD SPONGE; VAPOR INHALATION

Effects of Baths.—Baths of all temperatures are given to reduce fever and inflammation. The temperature is reduced by cooling the blood and equalizing the circulation.

The cold method is the application of cold water to the surface. When first applied it tends to contract the surface capillaries. Friction and stroking toward the heart is necessary to aid the reaction which takes place.

Warm water has the opposite effect. It dilates the surface capillaries and is now used extensively in preference to cold water. By dilating the surface capillaries the blood is brought to the surface, and is cooled by the evaporation of the water on the surface.

Hot baths, vapor baths, and packs, are given to induce perspiration. They are given especially in diseases of the kidneys to aid the skin in carrying away the waste material which the kidneys are unable to take care of.

Warm baths have a sedative effect. They are frequently given at night to induce sleep by relieving the congestion of the brain and internal organs; by dilating the surface capillaries the blood is drawn to the surface, the congestion in other parts is relieved and sleep follows.

Hot foot baths are given to draw the blood into the lower extremities. A cold cloth should always be placed on the forehead which helps to equalize the circulation. Mustard increases the effectiveness of a foot bath and should be added in the proportion of one tablespoonful stirred smooth in a little cold water, to one gallon of hot (not

boiling) water. They are given for headache, sleeplessness and in dysmenorrhea. Hot foot baths are good in cases of chronic cold feet in elderly people when due to poor circulation.

Treatment by the various kinds of baths which the home nurse may be called upon to give will seldom include any except the cold sponge or pack for fever, the hot pack given to induce perspiration, and the mustard foot bath.

BATHS FOR REDUCING TEMPERATURE

Cold Sponge.—Place the patient on a rubber sheet. Over this place a thin old blanket or sheet. In the absence of a rubber sheet, large bath towels placed over the blanket will aid greatly in protecting the bed. Place a hot water bag at the patient's feet and a cloth wrung out of ice water on the head. Wash cloths or sea sponges are needed for sponging; also a large basin of water and one containing ice. Use large towels or a sheet folded in half for covering the patient after the nightgown and bed covers have been removed.

Begin with tepid water, wetting the face, arms, chest and body in turn with wash cloths or sponge. The skin should not be dried for the object is to cool by evaporation. Cool the water and sponge as before. Add more ice. Take a part of the body at a time, beginning with the arms and chest, sponge with long even strokes, always toward the heart. Keep the cloths or sponges cold by changing them frequently; wring them just dry enough to prevent dripping. Where there is a high temperature there is no danger of catching cold, and as eradication of heat is the effect sought, the body should be exposed as much as possible. The patient may complain bitterly of feeling cold and she may shiver and the teeth chatter, but the sponging must proceed until the temperature is

reduced. Do most of the sponging on the broad surfaces of the back and chest, and on the inner surfaces of the arms and thighs where the large blood vessels lie. Use the same system in going over the body as for a cleansing bath, and turn the patient for sponging the back two or three times. Work gently and smoothly and do not excite the patient by being fussy. It will require twenty minutes or more to reduce a high temperature. Cold drinks may aid, and the temperature should be taken at the end of twenty minutes. If the patient is conscious, this can be taken by mouth. However, if she is very ill the axilla can be dried and time enough allowed for its registration, or it can be taken by rectum, in which case it will be a degree higher than per axilla. If the temperature is sufficiently reduced, remove the bath towels and blanket (drying the skin by patting instead of rubbing), and put on the gown; remove the hot bag from the feet and take the temperature again one-half hour after. Record both temperatures.

Sometimes the doctor orders the patient sponged off with cool water and fanned, thus *reducing the temperature by evaporation*.

The patient is wrapped in a sheet wrung out of cold water or wet towels may be spread over abdomen, arms and legs. He is then fanned for a period of twenty minutes or until the temperature is reduced. The hot bag to the feet and cold compress on the head is used as in the cold sponge. Rubbing or friction stimulates the circulation, and helps to cool the blood current. It is gently done with the bare hands; each part (excepting the abdomen) should be rubbed several times during the bath.

A cold pack is given by protecting the bed; the patient is wrapped in a wet sheet or towels and then covered with

a cotton blanket or sheet and left for twenty minutes or half hour. Good authorities say this plan is excellent for children or patients who chill easily.

The Hot Pack.—This is used to induce perspiration in uremic cases or other kidney conditions. It often soothes in cases of delirium and nervousness.

Protect the bed with a large rubber sheet; a thick, old comforter and newspapers must be used if a rubber sheet is not to be obtained. Remove night clothes, place a blanket under the patient and two over him; old blankets should be used for this purpose. Two persons then roll and immerse a wool blanket in a tub of hot water, holding on to the ends, however, as they need not be wet. With a firm grip each person twists in opposite directions, thus wringing the blanket as dry as possible; it must be done quickly. The water must be hot and do not unfold the blanket as it will cool rapidly. Turn the patient on his side as for changing a sheet, and wrap quickly in the hot blanket. It requires two people and should be done under cover as much as possible.

The hot wet blanket is folded over the patient; the dry blankets are snugly tucked in over it and the edges of the rubber sheet brought up over all and pinned to keep in all the moist heat. Extra dry blankets heated good and warm may be placed over all and warm bricks or bottles that will not burn the hand added, thus assuring enough heat to produce a good sweat, but every necessary precaution should be used to prevent burning the patient.

An ice bag or cold cloth should be kept on the head while the patient is in the pack. At least a half hour is required to produce a profuse sweat. Hot drinks should be given and when removing the patient from the wet blankets put a warm, dry blanket over him and a warm bottle to his feet.

To Give a Foot Bath to a Bed Patient.—Loosen the upper bed clothes at the foot. Protect the lower sheet by a newspaper pad, over which is placed a bath towel. The patient lies on her back with the knees flexed so as to place the feet easily in a foot tub or bucket. Have the water just comfortably warm at first and add hot water from a pitcher, pouring it in carefully at the side until a temperature as hot as can be borne is reached. The usual time for a foot bath is fifteen minutes. Dry the feet on the towel after the tub is removed and do not expose them to draughts.

Steam Inhalations.—They may be given for croup, laryngitis or bronchitis. For croup, a tent can be made by draping a sheet over the crib or over an open umbrella, fastened to the top, so as to enclose the patient's head. Place a kerosene or alcohol lamp in a pan or kettle. Place over the top a toaster or similar arrangement that will substantially support a teakettle and not exclude the air. Have the water brought to a boil before placing over the lamp. Make a pipe out of heavy paper, place it over the spout of the teakettle and direct it under the canopy, fastening it where required.

Inhalations can be taken by adults very successfully by wrapping a small blanket over the head and around a basin or pitcher of hot water thus enclosing it so as to be able to breathe the steam.

Hot fomentations to the throat or chest consist of a small flannel pad wrung out of hot water, applied and covered well to retain the heat and changed as often as necessary.

Cold Compress or Preissnitz Bandage.—This is a soft towel or napkin wrung out in very cold or ice water and wound around the neck. Cover the compress with oiled silk or wax paper and a dry towel should then be placed

over all to protect the bed covers. The compress can be changed every six hours if temperature is high; in slight cases night and morning is sufficient.

For Demonstration.

Cold sponge. Cold pack. Hot pack. Foot bath to a bed patient. Steam inhalation. Preissnitz bandage.

Review Questions.

What are the effects of baths?

Give the effect of cold water on the skin.

Give the effect of warm water on the skin.

What is a hot foot bath given for?

What are hot baths, vapor baths and hot packs given for?

What effect has a warm bath?

How should a cold sponge be given?

How should a cold pack be given?

What is a hot pack given for?

How should a hot pack be given?

How would you give a hot foot bath to a bed patient?

How would you give a steam inhalation for croup?

How would you apply a hot fomentation or a Preissnitz bandage to the throat?

CHAPTER X

ADMINISTRATION OF MEDICINE

One of the most essential things to learn in the care of the sick is the importance of following directions accurately. Carelessness on the part of the patient or nurse in following orders can retard the improvement and defeat the object the physician is striving for. What may seem trivial to the inexperienced person may be of vital importance in the judgment of the physician. If a teaspoonful of medicine is ordered, the doctor means just that much and no more. If he orders water or an instrument sterilized, it must be boiled the required number of minutes instead of merely being brought to a boil. If he orders a treatment or medicine given every three hours, it should be given every three hours. The idea that two teaspoonfuls of medicine will cause the patient to improve faster when only one is ordered, is an error of judgment for which no one familiar with drugs would be responsible.

Medicines are given by mouth in the form of liquids, pills and powders.

Liquids should be measured in the regular medicine glass, as teaspoons vary in size.

Pills should be put well back on the tongue and swallowed with a large swallow of water.

Powders are put on the tongue and swallowed with water or mixed with water in a spoon with scraped apple, sugar, or jam.

Medicines given by hypodermic syringe take effect in from two to five minutes. They are also given by rectum

in the form of *suppositories* or by *high enema*; also by *inhalation*, when they are put in hot water and the steam inhaled, and by *inunction*, when rubbed on the skin for absorption.

The effect of medicine is obtained only after it has been absorbed in the blood. Given by mouth it is absorbed in about twenty minutes. Pills and powders have to be dissolved first and are absorbed more slowly.

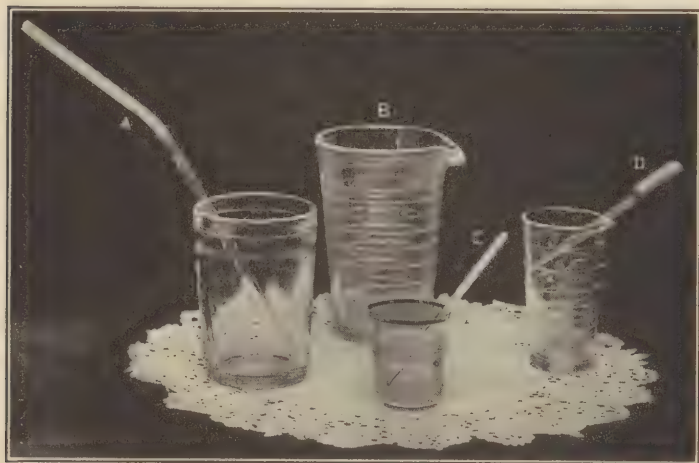


FIG. 21.—*a*, bent glass drinking tube; *b*, 8 ounce glass graduate; *c*, thermometer in boric acid solution; *d*, medicine dropper and glass.

Irritating medicines should be taken immediately after a meal or with a full glass of water.

Medicines ordered before meals are given one-half hour before, and those ordered after meals are taken one-half hour after. Medicine may be given to an unconscious patient by putting a few drops at a time well back on the tongue.

In giving solutions shake the bottle well and pour from the side opposite the label; if any of the liquid should run down the side of the bottle it will not discolor the label.

Hold the glass on a level even with the eye when pouring as the measurement will be more accurate.

When ordering medicines for illness in the home, the doctors prescribe them in convenient doses; therefore, there is no need of going into the division of doses here.

Bottles of medicine should be kept in a cool place, and never on a table in the sick room. Prepare the dose outside and take it (with a glass of water) to the patient.

In measuring a dose of medicine always shake the bottle, look at the label before pouring it, and again after the dose has been measured. Cork well after using.

No one should take a dose of medicine in the dark. Many deaths have occurred from the careless habit of going to a medicine cupboard and taking the wrong medicine by mistake in the dark.

Medicine should never be left within the reach of children; they are inclined to taste everything and many deaths have occurred through carelessness in leaving poisons within their reach. *No unlabelled* bottles should be kept.

All left-over prescriptions with only the directions to guide one as to their composition are unsafe, and they frequently lose their strength after a certain length of time.

Liquid medicine is usually given diluted a little with water. Ice held in the mouth will sometimes aid a sensitive person in taking a nauseating dose.

Acids are well diluted and taken through a straw or glass tube; also medicines containing iron. Both have a bad effect upon the teeth. If iron has to be given without a tube, brush the teeth with a solution of bicarbonate of soda afterward.

Purgatives should be given the first thing in the morning.

The *milder laxatives* should be taken at bed time.

The technique of administration by hypodermic must be learned by demonstration and taught by a trained nurse or a doctor.

To drop a liquid from a bottle, wet the cork with the liquid and hold it just beneath the edge of the bottle. As the liquid is dropped the fall of each drop is thus broken making counting easier and more exact.

When using a medicine dropper, hold the dropper so that the liquid drops from the side instead of from the point, as the latter gives a much smaller drop.

To make *the unconscious patient swallow*, put the medicine far back on the tongue and close the lips and nostrils; involuntary swallowing will result.

Sleep-producing medicines are only given as emergency remedies in cases where pain is unbearable and the need of relief and sleep is imperative. Most of them are violent poisons and in large doses cause death. They act by stupefying and temporarily paralyzing the nerve centers. Continued use of them—especially the opiates can easily become a habit. They are among the most important drugs the doctors prescribe but they alone should be the judge of when they should be used.

The intense suffering of acute and chronic diseases verily justifies the statement that "Opium is the finger of God," but it must ever be remembered that it is intended for the relief of intense pain only. Taking it promiscuously and deliberately, through lack of the strength of character to bear pain or trouble, is the shameful abuse of a God-given blessing.

The public should know that the advertised doctor or medicine is a dangerous experiment. The safest physicians *do not advertise*, and the medicine that is guaranteed to cure all ills should be poured into the sewer instead of into the stomachs of people whose health or life may be the

price paid for the personal greed of an unscrupulous individual.

Valuable time may be lost when taking an advertised medicine that seldom contains a single drug which the patient requires; frequently such mixtures do direct harm. The list of medicines recommended as home remedies is fully described with directions for their use in Chapter III.

For Demonstration.

Measuring and giving liquid medicine, pills, and powders.

Review Questions.

- How should medicines be measured?
- When is the effect of medicine obtained?
- When should irritating medicines be taken? How would you give medicine to an unconscious patient?
- How would you pour solutions from a bottle?
- When should medicines be kept?
- Is it dangerous to take a dose of medicine in the dark?
- How is liquid medicine given?
- How are pills and powders given?
- How are acids and medicines containing iron given?
- When should purgatives be given?
- When should laxatives be given?
- How would you drop a liquid from a bottle?
- How can involuntary swallowing be induced?
- When are sleep-producing medicines given?
- How do they relieve pain?
- Should advertised medicines or "patent" medicines ever be used?
- Why should you not call a doctor who advertises?

CHAPTER XI

DISINFECTANTS AND ISOLATION

Before taking up the study of infectious and contagious diseases, the home nurse should thoroughly understand the technical methods employed in the proper disinfection and isolation of such diseases.

Since we have about us everywhere both good and bad germs we must seek protection from the dangerous ones by using the methods which we positively know destroys them.

Nature's method of sunshine and fresh air and the housewife's industry with plenty of soap and water will render our homes clean and sanitary. *Sunshine is a natural disinfectant*, but it is not always possible to expose our hands and every infected surface of linen or appliances to hours of sunshine, consequently we must depend upon other methods that are both practical and effective.

By disinfection we mean the destruction of bacteria or germs by the use of heat or chemical solutions.

Infection and Contagion.—An *infectious disease* is not always a contagious disease; it is not contracted by being in the same room with the patient but is transmitted through coming in contact with the sources through which the infection is carried. For instance, the excretions of the intestinal tract carry the germs of typhoid, cholera, etc.; the sputum, the germs from the tubercular patient, and the membrane and mucus from the throat, carry the germs of diphtheria.

It is unwise not to isolate all patients suffering from infectious diseases, and in caring for them it is necessary to disinfect according to the nature of the infection.

Therefore, knowing that the germ of typhoid is in the stool or mouth everything coming from, or in contact with the alimentary tract must be disinfected; this rule applies to all such diseases.

Sterilization by Heat.—When disinfecting for a contagious disease in the home, put everything small enough into a wash boiler and boil fifteen minutes.

All basins, linen, dishes, etc., are best disinfected in this way. Those things which cannot be boiled, such as furniture and woolen clothing (should any have been worn at the time of the attack) should be disinfected in some way, either by baking or fumigating.

During the period of isolation, chemical solutions are used for disinfection of toilets, linen until it is laundered, nursing appliances, and the nurse's hands. This rule applies to both infectious and contagious diseases.

The most useful disinfectants are carbolic-acid, bi-chloride of mercury and lime.

Bi-chloride is the most powerful disinfectant, but as it discolors clothes and instruments it is never used for them. When purchasing it for home use, always ask for the colored tablets, one to a quart of water. As the bi-chloride is perfectly colorless there is less danger of confusing it with plain water if the colored tablets are used. It is chiefly used for disinfecting hands. It is a deadly poison, and should always be used with intelligence and caution and always kept beyond the reach of children.

Carbolic Acid Solution.—This is much preferred for disinfecting bed linen in the sick room. The commercial carbolic can be used just as well as the purified product and is much less expensive.

To make it up in large quantities use the following rules: To make a gallon of a 5 per cent. solution or 1-20 strength (meaning one ounce of the carbolic to 20 ounces of water) dissolve seven fluid ounces of carbolic acid in one gallon of boiling water and shake until thoroughly dissolved. The acid must be thoroughly mixed for if the globules float on top of the water a carbolic acid burn is easily possible. In case of such a burn apply alcohol, glycerine, or vinegar at once.

Rule No. II. Measure the carbolic and add an equal quantity of glycerine. Add a small quantity of water and shake; then add the required amount of cold boiled water. This is an excellent method to use in making up the solution. The acid mixes thoroughly with the water and it is much more easily handled, but more expensive.

Remember that two tablespoonfuls equal one ounce, and if a measuring glass is not at hand fourteen tablespoonfuls of carbolic to one gallon of water makes a 1-20 solution.

For a small quantity, six teaspoonfuls to one pint of boiling water makes a 1-20 solution and for a 1-40 solution the same amount to one quart of water.

Other Solutions. Lysol.—For a lysol solution of the same strength use two and a half teaspoonfuls to one pint of boiling water.

Boracic Acid.—One ounce of the powder to one pint of boiling water for a 3 per cent. solution.

Potassium Permanganate.—Thirty grains to one pint of water.

Chloride of lime is one of the most powerful disinfectants known. It is used for water closets, drains and excreta from infectious diseases; it should never be used for clothing as it destroys the fabric. A 4 per cent. solution is used which is approximately *six ounces dissolved in one*

gallon of water or one pound dissolved in four gallons of water.

To disinfect excreta put an equal quantity of the solution on the stool and let it stand one hour before emptying.

Milk of lime is a sure and inexpensive disinfectant. It should be slaked fresh for using by adding one pint of water to two pounds of lime; after bubbling ceases add four times as much water as the amount of slaked lime. It should not be made in too large quantities, as it loses its strength. Fresh should be made every two days.

Use an equal quantity to the amount of excreta to be disinfected and let stand two hours before emptying. This solution is valuable for drains, closets, etc., in the country, and for houses without sanitary improvements.

The bedpan should be well washed and it is a wise precaution to keep it in a disinfecting solution.

Bed Linen.—When removing bed linen from a patient, have a small tub containing 1-20 carbolic solution and soak all linen in the solution at least two hours before sending to the laundry, where it should be boiled. A sheet may be wrung out of the solution and spread on the floor and all articles of infected clothing piled upon it. They can be wrapped safely in the sheet and thus removed from the room. If they were at once put into the wash boiler and boiled without unwrapping, such a procedure could be considered safe.

Paper napkins or old linen containing expectoration from a tuberculous patient, sputum from a pneumonia, or infected discharges of any kind should be wrapped in paper and burned.

Fire is the most inexpensive and safe disinfectant and always should be employed to get rid of everything that can be burned. All feeding cups, glass tubes and dishes

should be boiled and kept in the room. Bath water should be disinfected before it is emptied.

Contagious diseases such as measles, scarlet fever, mumps, whooping cough and smallpox are communicable through contact with the air surrounding the patient, as well as by touching the person.

Those coming in contact with such cases can spread the disease. Therefore, doctors protect their heads and clothing before entering the room and wash their face and hands after leaving it.

A sheet wrung out of solution is usually hung over the door way; it probably is of little value except possibly preventing dust from escaping from the room.

RULES OF ISOLATION

1. "Measles and diphtheria are of rather short duration and usually are nursed in the room in which the patient was taken ill rather than infect another room. Scarlet fever and typhoid may be expected to last for weeks and the most desirable room should be occupied and the room vacated fumigated.

2. No one should be allowed to enter the sick-room except the doctor and nurse.

3. Long sleeved aprons or coveralls and caps which will cover the head should be worn by the physician and nurse while in the room.

4. A solution of bi-chloride, 1-1000, should be kept by the wash basin for the disinfection of hands, and they should be disinfected every time after touching or doing anything for the patient. For proper isolation there should be two rooms—the wash stand, gowns, disinfectants, etc., being kept in the outer room.

5. A foot tub or other receptacle containing carbolic,

1-20, should be placed near the bedside when the clothes are about to be changed, they should be put immediately into this, remaining there well covered for four hours. They should, even then, be boiled before being washed.

6. The advice given earlier as to the furnishing and care of the sick-room is especially applicable in cases of contagious diseases. When dusting, the duster should be dampened in 1-40 carbolic. As bare floors are apt to be noisy, a small rug or two may be retained, but they should be old ones, as they ought to be burned at the termination of the disease. They must not be shaken, as at other times, but kept well dusted with the damp duster.

7. It is well to keep sheets, wrung out in carbolic, 1-20, both between the two rooms set apart for the nursing and at the entrance of the outer room. The door of the latter must be kept closed.

8. The dishes and utensils used by the patient and attendants must not be removed from the room; they must be washed there, the patient's always being washed and kept separate. When food is brought it should be left at the door of the outer room. The attendant, first taking off her cap and apron and disinfecting her hands, should remove the food from these dishes to the ones she has in the room; the others should be removed immediately.

9. Whenever it can be managed the isolated rooms should be in close connection with a bath room, which should be set apart for the use of the inmates of the sick-room. When this is impossible the attendant must, when it is necessary to go there, first remove her cap and apron and disinfect her hands. When her object is to empty the slop jar or bedpan they should be completely covered with a large towel wrung out of carbolic solution.

10. When there is no separate bathroom a tightly

covered box nailed on the outside window-sill of the outer room will be found convenient to hold the bedpan, while its contents are being disinfected.”¹

DISINFECTION AT THE TERMINATION OF THE DISEASE

Even after the fever has abated it is necessary to keep the patient isolated, or “in quarantine,” as it is called, for some days. The doctor should always be the one to decide when it may be raised, as circumstances or complications may arise which might make it allowable to shorten, or necessary to lengthen the time.

When the doctor does allow the patient to be moved, a warm cleansing bath (including the washing of the hair) must be given. This is followed by a bi-chloride bath, 1-1000, and an alcohol rub. The patient is then wrapped in a clean sheet and taken to a different room, where fresh clothes which have not been in the sick-room are put on. Those who have done the nursing must go through the same procedure.

PERSONAL PRECAUTIONS TO BE TAKEN BY THOSE NURSING CONTAGIOUS DISEASES

1. Take sufficient sleep and rest; never in the patient's room. It is when the muscles are relaxed, as they are when resting, that the greatest danger of infection comes.
2. A daily walk in the fresh air is necessary.
3. A daily bath; change of all clothing at least three times a week. The clothing must be disinfected.
4. When working over the patient never stoop so that you inhale her breath. Never kiss your patient.

¹ From “Home Care of the Sick,” American School Home Economics, Chicago.

5. Never put your hands to your face, especially to your mouth or eyes, without first disinfecting them.

6. Disinfect your hands frequently in bi-chloride of mercury, 1-1000. Keep the nails short and scrupulously clean. When washing the hands wash the soap off before putting them into bi-chloride, or they will soon become sore.

7. Before meals wash and disinfect your hands well, rinse your mouth with boric acid solution or listerine. Never eat in the patient's room.

8. When irrigating a diphtheria patient's throat tie a handkerchief over your mouth, and wear glasses to protect the eyes.

9. To prepare for her walk in the fresh air, the nurse should change all her clothing and wash her face and hands in bi-chloride solution 1-1000, gargle her throat and wash her mouth with a mild antiseptic solution. As it would be impossible to wash the hair every time, a cap covering the head completely should be worn while on duty. Even when these precautions have been taken she must avoid stores, street cars and theatres.

THE FUMIGATION OF THE ROOM AND ITS CONTENTS

The use of sulphur fumes as a disinfectant has been proven practically useless and formaldehyde has replaced it.

The city health departments have apparatus and experienced people fully equipped for properly fumigating a room or house, and it is the custom when possible to obtain such service to place the matter in the hands of the health department.

Where this is impossible, however, a standard method is to use the prepared formaldehyde easily obtainable at a drug store with full directions which must be followed accurately.

Another safe method is to put three and one-half ounces of permanganate of potassium crystals into a tin vessel or can which is set inside a wooden or paper bucket. Over the crystals one pint of formaldehyde is poured.

The rule is, for every 1000 cubic feet of space one pint of formaldehyde is required.

Close the windows pasting strips of paper over the cracks; pull down the blinds; open cupboards, drawers and bundles, etc., that everything may be exposed to the fumes of the gas; set fire to the formaldehyde and leave the room; lock the door and paste up the cracks and keyhole.

Leave the room thus for five or six hours, then open all the windows, if possible allowing them to remain open for twelve hours.

Books and toys used in the sick-room should be burned, as they are hard to disinfect.

Unless the mattress can be baked it should be opened, so that the formaldehyde can penetrate through to its center. In all large cities there are bake houses where such things may be sent for disinfection at comparatively small cost. They should be carefully wrapped up.

For Demonstration.

Preparing solutions. Sterilization of small appliances by heat.

Sterilization by disinfectants. Removal of excreta and infected bed linen from the room. Preparing a room for fumigation.

Review Questions.

What is the difference between an infectious and a contagious disease?

How are infections carried?

What kind of sterilization is the most effective?

Name the most useful household disinfectants.

How would you make a carbolic solution 1-20?

How is chloride of lime prepared as a disinfectant?

How would you prepare milk of lime?

How would you disinfect bed linen?

Give the ten rules of isolation.

Give the methods of disinfection at the termination of a period of isolation.

What personal precaution should a nurse observe when nursing contagious diseases?

How would you disinfect a room?

CHAPTER XII

PREPARATION OF DRESSINGS AND THE DRESSING OF SMALL INJURIES

Surgical cleanliness means entire freedom from germs. Boiling is the simplest and most certain method of destroying germs and should be used when at all possible. Scalding or boiling for a few minutes will kill some germs and prevent the growth of some; but the boiling should last fifteen minutes to be entirely effective because some bacteria are very hard to kill.

It is because of the difficulty in sterilizing the hands that surgeons have adopted the custom of wearing rubber gloves; the gloves can be boiled and rendered absolutely sterile. However, for the average minor injury which can so easily become infected, experience has taught us that scrubbing the hands thoroughly with soap and running water, and immersing them in bi-chloride solution 1-1000 for a minute, before touching the wound, assures us that there is little danger of introducing infection into the wound through our personal contact with it.

How to Prepare the Hands.—The only really clean nail brush is the one that has been boiled. Use warm running water and soap freely. The nails should be clean and cut short. Commencing with the thumb, scrub particularly well around the nails. Scrub on the inside and outside and between the fingers; continue systematically until five minutes have been spent on each hand and wrist, using in all ten minutes. Wrinse the soap off well in fresh running water and immerse the hands for a minute in bi-chloride solution 1-1000.

After thus prepared, touch nothing but the surgical dressings used in dressing the wound.

The thorough scrubbing of the hands with clean brush and soap and water is the most important part of the procedure. The solution if obtainable is valuable but it is not always at hand.

The thorough washing of the hands is nearly always possible; if no suitable brush is at hand, a piece of gauze or coarse cotton cloth can be used with vigorous rubbing instead. This rule of preparing the hands is always followed and assures a safe precaution when required for emergency work.

When the hands are scrubbed for assisting in dressing larger injuries, the sleeve should be rolled above the elbow and the arms included in the preparation.

How to Sterilize Dressings.—The gauze, linen, or cotton, should be wrapped in squares of substantial muslin and arranged in packages 9 inches square and firmly pinned. If no steamer or suitable rack for the wash boiler is at hand, a hammock of gauze can be suspended from one end to the other and securely fastened to the handles and the dressings placed in it.

Enough water to make steam without danger of its boiling dry should be kept in the bottom of the boiler. With a close cover the dressings should steam one hour; they should then be placed in an oven, not too hot to scorch, to dry the moisture. Lay aside without opening, until they are used.

How to Prepare Old Linen.—Suitable old linen, such as old handkerchiefs and napkins, old white outing flannel or lawn, should be washed clean and boiled. Then with clean hands, iron and remove hems, seams and buttons: fold each piece separately and make up a suitable package of such odds and ends as are necessary to dress a cut

finger, wound of the foot or a burn; wrap in a good piece of old muslin and pin the edges firmly. It is better to make up several small packages than to make one large one.

If handled with clean hands, linen so prepared and laid away in a drawer or cupboard would be safe enough to use without danger of infecting a fresh wound, but if the extra caution is desired the packages should be sterilized.

Some germs will undoubtedly be driven into the body in every wound. Our object should be the prevention of introducing more, thus giving our white blood cells or phagocytes the best possible chance to destroy the few that have entered. Fortunately, pus germs do not float about in the air so that there is no danger in exposing a wound to the air. They are found on our hands and knives, scissors, clothing and the water with which we dress the wound. Therefore, our hands should be washed and the other articles boiled in order to prevent introducing infection into the wound by our contact with it.

How to Dress a Small Injury.—Wet a small piece of clean absorbent cotton or soft, old linen in boiled water, boracic acid or bi-chloride solution, squeeze it dry and wipe the dirt, if any, out of the wound. Use another similar piece to cover the wound while you take another “sponge” a little wetter and gently wipe off the skin surrounding the wound. If the wound is on the scalp, the hair will have to be shaved or clipped away. After the wound has been thus cleaned, then make an application of tincture of iodine to the wound and surrounding skin by twisting a bit of cotton to the end of a toothpick so as to form a small brush. This is a strong disinfectant and will kill any germs left in the wound. Use it just wet enough to paint the surface over lightly and then cover the wound with a pad of gauze or old linen. Some cotton may be placed on top of the pad if the injury is a large one. Fasten

the dressing with a bandage or adhesive plaster. Never use ointments or salves on a fresh wound.

Small Abrasions.—Where the skin has been merely scuffed or scraped the oxide of zinc ointment is most commonly used. It is applied by spreading it on a piece of clean soft linen fastened in place with a bandage or a pad and adhesive plaster.

Haste is seldom necessary in the dressing of simple injuries. The necessary time for doing it properly should be taken and excitement avoided.

For Demonstration.

Sterilization of instruments and hands.

Dressing an imaginary or real wound.

Sterilizing dressings.

How to prepare old linen.

Review Questions.

How long would you boil an instrument to render it sterile?

Describe the preparation of the hands.

How would you sterilize dressings?

How would you dress an injury?

CHAPTER XIII

CARE OF EYE AND EAR

The Eye.—Every child should be taught to protect the eye from strain. It should always sit so that the light shines on the book instead of facing the light. Lying down to read is a habit that is injurious to the eye.

Foreign Body in the Eye.—Dust or cinders may be removed by holding the eye open until the irritation causes the tears to flow and in this way the foreign body may be irrigated out of the eye. The lid can be controlled by raising it and pressing it firmly against the bony prominence under the eyebrow. The speck can often be removed with the corner of a clean handkerchief.

Whatever the foreign body may be, do not rub the eye. The delicate conjunctiva is scratched and cut by doing so; this may set up a serious inflammation of the eye.

When the foreign body lodges under the lid, it is necessary to *evert* the lid. This is done by grasping the eyelash and pulling the lid down and out. The pointed end of a pencil or toothpick is then placed in the center of the lid and the lid is turned back over it. The patient should be told to hold still and not wink.

A drop of castor oil put into the eye is soothing and may remove the cause if the more simple method fails.

To Irrigate the Eye.—The patient must sit with the head well thrown back or must lie down. A stream of boric acid solution squeezed from a sponge of cotton wet with it can be used in an emergency, but a rubber

syringe is preferred; a medicine dropper is frequently used. They should be sterilized before using. A kidney shaped basin is held close to the side of the face where the more copious irrigation from a fountain syringe is used.

For a small amount of irrigation a piece of cotton is used to absorb the solution. First place a piece of cotton over the well eye; turn the patient's head outward; open the lids and hold them firmly by pressing against the bony wall around the eye. Irrigate the solution from the inside outward, absorbing it with a piece of cotton as it flows out; for the more copious irrigation use the basin. The solu-

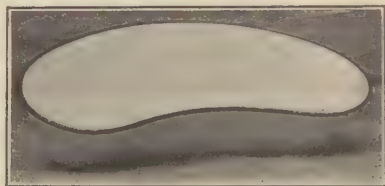


FIG. 22.—Kidney shaped basin for irrigation of ear or eye.

tion should be comfortably warm and enough used to remove the discharge. Always dry the eye by wiping outward from the nose.

The important precaution of never using anything that has touched one eye in caring for the other and never touching her own eyes when nursing a case should be strictly observed.

To Put Drops in the Eye.—Pull down the lower lid and with a medicine dropper put the required number of drops on the lid near the outer corner; do not touch the eye with the dropper.

Delirious patients and patients too ill to sleep for long periods of time should have their eyes covered occasionally to prevent the severe strain of their constant use

without rest. A suitable pad or compress can be placed over them as needed for closing them.

To hold a struggling child for either eye or ear irrigation, a large towel wrapped around the child will bind and fasten the hands and arms down to the body. The child can then be held on the lap with the feet between the nurse's knees or it can be laid down and thus held comfortably.

Earache is a very common complication of a bad cold and bad tonsils and adenoids. The child frets and cries according to the severity of the pain. Sleep is more or less disturbed by pain. The child will show the evidence of pain or tenderness if the finger is pressed against the fore part of the ear. A baby may put its hand to the ear or rub the side of its head when suffering from an inflamed ear.

Warm, dry applications to the ear, and warm water irrigation as hot as can be borne is all that can be done outside of the physician's attention (see ear douche, p. 58).

To Relieve Inflammation.—Two quarts of water as hot as can be borne against the cheek is irrigated into the ear. The tip of the ear is pulled backward and upward to straighten the canal. The patient holds a basin below the ear or she may lean over a large bowl or bath tub. The syringe should be hung not more than 3 or 4 inches higher than the ear so that the water runs slowly and without force; at least fifteen minutes should be taken to gain good results. The ear should be wiped dry. A piece of cotton is then put into the canal. A warm pad or hot water bag also gives relief.

Irrigation for Hardened Wax.—If the usual irrigation does not remove it, adding a teaspoonful of bi-carbonate of soda to the water will aid greatly in softening the wax so that it can be removed.

A nurse is justified in using medication for the ear only when it is invaded by an insect. She should then promptly use warm oil, glycerine, or irrigation to drown the insect. It can then be removed.

Children sometimes put shoe buttons, beans, or other small articles into the ear or nose. They should be removed by a doctor, because without the proper instruments the effort to remove them usually results in pushing them farther into the canal, thus endangering the eardrum. The practice of poking pointed or sharp instruments into the ear to remove wax or to clean the canal is a dangerous one. Except for the necessary washing for cleanliness the ear should be let alone.

Nosebleed.—This may be due to a slight injury or may come on without an injury, especially in children. Slight nosebleed does no harm and does not require treatment.

To stop severe bleeding put the patient in a chair with head hanging back. Loosen collar and apply cold to the back of the neck by means of a cloth wrung out in cold water. A roll of paper between the gum and the upper lip will help, as also will pinching the soft part of the nose.

If these measures are not successful, salt and water may be snuffed up the nose. If bleeding still continues send for a doctor. While waiting for him, make a cotton plug and with the end of a pencil push it into the nostril from which the blood is coming.

For Demonstration.

Irrigation of the eye.

Removing a foreign body.

Everting the eyelid.

Putting drops in the eye.

Holding a child for nose or throat work.

Irrigation of the ear.

Review Questions.

How would you evert the lid and remove a foreign body?

How would you put drops in the eye?

How would you irrigate an infected eye?

How would you irrigate an ear?

What would you do for earache?

How would you remove an insect from the ear—hardened wax?

What would you do for nosebleed?

CHAPTER XIV

BANDAGING

A properly applied bandage requires a degree of skill which is attained only after considerable practice.

When properly applied it is neither too tight nor too loose, and should remain in place without readjustment for twenty-four hours, even though the patient moves about in a normal way. When uncomfortable it is not properly applied.

Firmness should not be sacrificed to neatness. A neat bandage not always remains in place without slipping.

The purpose for which the bandage is applied must be kept in mind; this combined with manual dexterity in putting it on will determine the success of its application.

The different kinds of bandages in common use are the roller, the many tailed and the triangular or handkerchief bandage. Bandages are used:

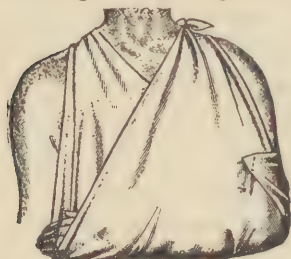


FIG. 23.—Brachio-cervical triangle. (*Esmarch and Kowalzig.*)

First. To keep dressings in place.

Second. To support injured parts.

Third. To apply pressure for checking hemorrhage.

Fourth. To prevent motion.

Triangular Bandage.—This is made from a square of muslin folded diagonally. It

may be large or small according to the needs of the case.

The triangular bandage is used for an arm sling. It should be put on with the point at the elbow, the fold at

the wrist, and the two ends each side of the neck, tying at the back. The point should be folded under neatly and pinned. The bandage should hold the arm high enough to support the forearm and hand. It is easily adapted to various purposes.

The *roller bandage* is made of muslin or gauze. It should be at least 5 yards long and $2\frac{1}{2}$ inches wide for an arm, head, or ankle bandage.

A *finger bandage* should be 1 inch wide and a bandage for the hand 2 inches wide.

For a *chest or thigh bandage* 3 or $3\frac{1}{2}$ inches wide and 8 yards long is used.

The bandage should be tightly rolled before applying.

The limb to be bandaged should be held in the position it is intended to be kept.

Apply the outside of the bandage to the inside of the limb; keep the roll close to the part, and unwind no faster than is necessary.

In taking off a roller bandage, gather it up in the hand as it is unwound and carry it around the limb, passing it from one hand to the other.

When bandaging a leg, begin at the ankle. When bandaging an arm begin at the wrist.

Wind two turns around the limb to prevent slipping. Let each turn of the bandage overlap two-thirds of the previous one so that there will be three thicknesses of bandage covering the part.

Leave finger tips and toes uncovered. If they become blue, the bandage is too tight; it is interfering with the circulation and must be loosened.



FIG. 24.—Finger bandage. (Heath.)

A bandage must be firm but not too tight, and the pressure must be even.

The Spiral Bandage.—This consists of spiral turns,

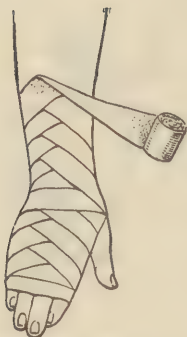


FIG. 25.—Spiral reversed of the forearm. (Stewart.)

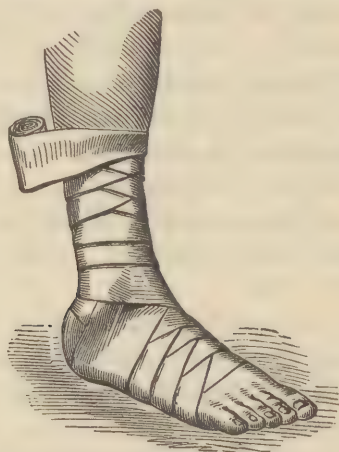


FIG. 26.—Figure-of-8 bandage of the foot. (Heath.)

each one overlapping the one below about one-third its width. In order to make a spiral turn fit, reverses

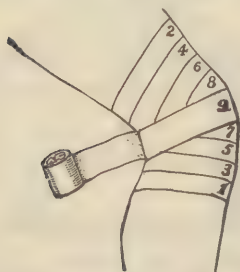


FIG. 27.—Figure-of-8 of knee. (Stewart.)



FIG. 28.—Spica of shoulder. (Gould.)

are made by placing the thumb or finger on the bandage, holding it firm enough to prevent its slipping, and then turning it over obliquely. This changes its direction

and brings the other side out. Reverses are made on the outer side of the limb.

The Figure of Eight.—This is used in bandaging a joint. The bandage is wound alternately above and below the joint, going obliquely across the joint underneath. If properly put on the joint is freely movable without disarranging the bandage.

The figure-of-eight bandage is used on the foot, hand, ankle, knee, elbow, groin, shoulder, eye and head.

The shoulder, groin and thumb figure-of-eight bandage is called a spica.

Many-tailed Bandage.—This may be used as an abdominal binder, the corresponding tails on each side being brought to the front and lapped over each other, the next two over these, etc.

The four-tailed bandage is useful for dressings about the face, the scalp and the knee.

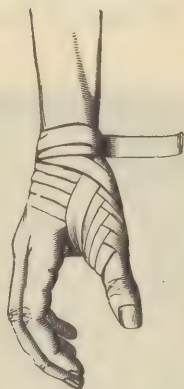


FIG. 29.—Spica of the thumb. (Heath.)

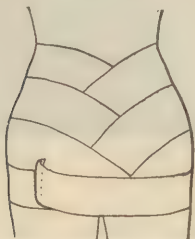


FIG. 30.—Many-tailed bandage of the abdomen. (Stewart.)



FIG. 31.—Four-tailed bandage of the head. (Stewart.)

Both the many-tailed bandage and the four-tailed bandage are made from a piece of muslin as wide as desired for the dressing, and long enough to go one and a half times

around. The muslin is torn from each side in strips from 2 to 3 inches wide, to within 4 inches of the centre.

The Scultetus Bandage.—This is used for the abdomen and makes a firmer, more easily adjusted and a more easily kept in place bandage than the many tailed.

A piece of muslin 1 yard long and 6 inches wide is



FIG. 32.—The scultetus bandage with the perineal straps attached.

used across which the edges of the tails overlap. The tails are torn 3 inches wide and long enough to go one and a half times around the body. The end of the back piece is torn to form a "T" bandage if one is required.

The "T" bandage is used to secure perineal dressings. Two strips of bandage 5 inches wide and 1 yard long.

To the middle of one strip which is intended to form the belt, the end of the other strip is sewed. This is passed between the thighs and fastened to the waist band with safety pins.

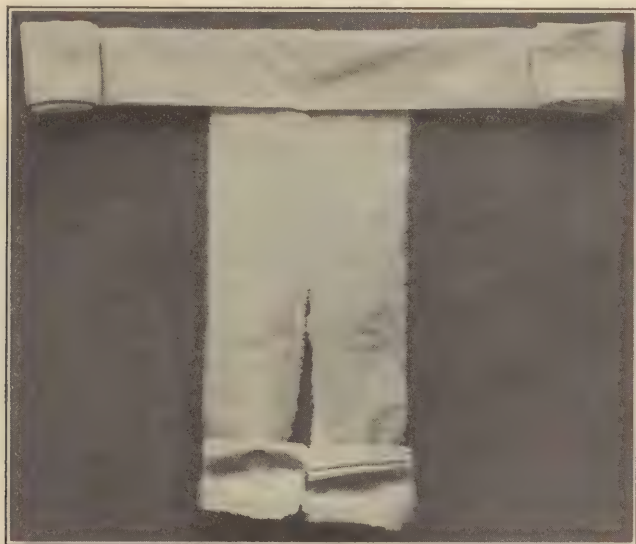


FIG. 33.—The T-bandage.

For Demonstration.

Method of applying the different kinds of bandages.

Tearing and rolling a bandage.

Review Questions.

What are the characteristics of a properly applied bandage?

For what are they applied?

CHAPTER XV

FRACTURES, ACCIDENTS AND EMERGENCIES

Fractures.—The gritting (crepitus) together of the edges of a broken bone is intensely painful. Therefore, the most necessary thing to do for a fracture is to place the limb at rest.

Fractures are of two kinds—*simple and compound*. In the simple fracture the bone is broken without injury to the surrounding flesh. In a compound fracture, the skin is pierced by the sharp edges of the bone tearing through to the surface. This is really a wound; it should be



FIG. 34.—Simple fracture. (Lynch.)

treated first to prevent infection, which is a very serious complication in treating the fracture. The wound should be covered at once with as clean a dressing as possible and bandaged into place. Then the splints to support the broken bone should be applied.

In lifting a fractured limb, grasp it on each side of the injury. If it is the leg below the knee place one hand under the ankle and the other under the leg just below the knee; lift both parts evenly so as not to disturb the fracture.

A splint can be made of a pillow or thick pad of any kind strengthened by sticks or a piece of board or an umbrella; bind firmly about the limb.

A fracture of the thigh should have a splint long enough to reach from the hip to the ankle. In the absence of anything that can be used, the legs can be bound together, thus making a splint out of the well leg.



FIG. 35.—Lifting a fractured leg.

Dislocation is a displacement of the end of a bone out of its socket. It is treated as a fracture by bandage and splints.

Sprains are a severe strain of the muscles and ligaments of a joint without dislocation.

Treatment: First apply cold water, followed by hot water application.

Strapping is used to support the injured ligaments. Rest is often necessary.

Nursing Care of a Fractured Hip.—A broken hip or fracture of the neck of the femur is a common injury in elderly people. It is most commonly caused by tripping and falling to the floor.



FIG. 36.—Pillow-splint for injuries of the leg. (*Dulles.*)

Pain and loss of power to move the limb may occur at once or come on gradually in a day or two.

Whenever possible the patient should be put to bed in a single iron bed. It is almost impossible to care for such cases properly in an old-fashioned double bed. Such cases should be removed to the hospital for the first few

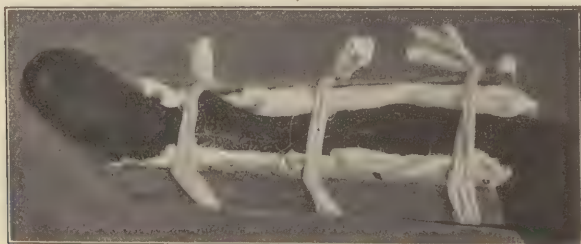


FIG. 37.—Splint for fracture of leg. (*Dulles.*)

weeks' treatment, unless a suitable bed and nursing care can be provided at home.

What is called a fracture board should be placed beneath the springs to prevent movement. An ironing board or table board will serve the purpose; slip it through from

side to side under the spring, beneath the hips. The doctor will direct the treatment of the fracture. The nursing care will require the following appliances:

A rubber sheet for making up the bed with a draw sheet.

Night gowns that are opened down the back.

A rubber air cushion for the back, which must be used from the first day. It will prevent a bedsore, which in elderly people may develop in the first twenty-four hours. It also acts as a cushion to support the small of the back.

A hot water bag.

A bed pan is essential.

A ring made of cotton for the heel is necessary unless a small cushion under the ankle to raise the heel enough to relieve the pressure is more comfortable.

A bed cradle to protect the foot from the weight of the covers is also necessary (see p. 48).

Alcohol for rubbing the back and extra small pillows to tuck here or there will give much temporary relief to the general ache of lying in a prone position.

Adhesive plaster and bandages and sand bags or splints, according to the method of treatment, are required.

A daily bath should be given with special attention to the end of the backbone. The back and heels should be washed at least twice a day and rubbed with alcohol and powdered. The rubber ring should be inflated just enough to raise the weight of the hips from the bed and the hole in the ring so placed as to relieve the pressure from the spine.

By flexing the knee of the well leg, the patient is able to slightly raise the hips for placing and removing the air cushion and bed pan. The rule of properly placing and removing the bed pan must be strictly followed in such cases (see p. 51).

The back between the shoulders should be rubbed with alcohol to relieve the ache.

The bed must be kept free from crumbs.

The hair should be parted in the centre and braided in two braids.

When the patient is moved or turned, extension should be made on the injured bone.

The doctor should instruct the nurse how to do this if it is necessary to be done.

The under sheet is changed by the usual method, or by rolling the sheet crosswise; commencing at the bottom roll it to within a yard of the top; tuck it in across the top of the mattress, and then roll the soiled sheet down and unroll the clean sheet in place, gradually working both down under the patient. Two people, one on each side of the bed, are required to do this well. Unless soiled by accident, it is better not to change the under sheet for the first two weeks. It is usually well protected with the draw sheet and does not easily get soiled.

ACCIDENTS

Accidents.—Wounds and fractures are the results of accidents. Whatever the injury may be, it requires cool calculation and common sense to meet the emergency. This should be practised by every one present.

First aid in either fracture or hemorrhage cases should be given where the patient has fallen. If an ambulance cannot reach the scene, a stretcher may be improvised by using a carriage robe or blanket, or by six or eight people joining hands beneath the patient, just as two people would make a chair for carrying a person in the sitting posture.

Shallow wounds seldom require treatment for hemorrhage. A clean handkerchief may be bound over the

wound temporarily and when obtainable, an application of iodine may be made if a physician is not in attendance.

Bleeding from an artery is indicated by the color of the blood, which is bright red; it spurts in a stream or bursts out in jets. Place a pocket knife, a short stick, or a small stone just above the spurting artery instead of over it, and bind it on tight, with a handkerchief or bandage made of a neck tie or strip from a skirt. If the spurting or profuse bleeding does not stop, tighten the bandage by the tourni-

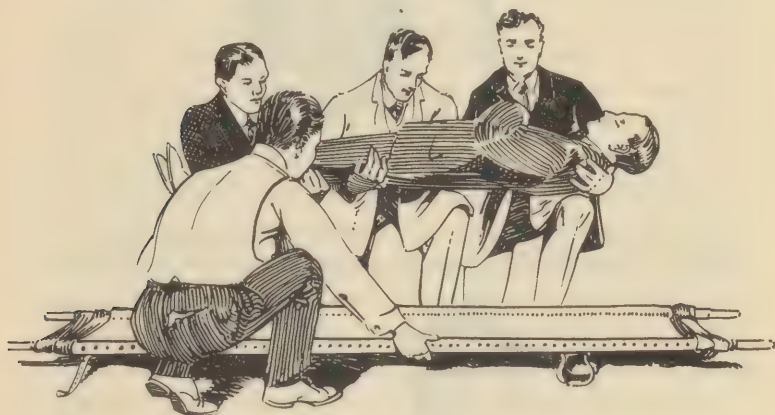


FIG. 38.—Lifting patient to stretcher.

quet method until it does stop (Fig. 39). Always bear in mind that a tourniquet cannot be safely left on longer than an hour and at the end of that length of time it should be gradually loosened, but not removed. The limb should be elevated and kept still. If the bleeding commences after the tourniquet has been loosened it must be reapplied.

For **scalp wounds** pressure on the wound is the method used for stopping hemorrhage. Hot compresses applied with pressure should be used when obtainable.

Bleeding from a vein is indicated by a steady flow and the blood is dark red; from the capillaries it oozes and is dangerous only when a large surface is bleeding.

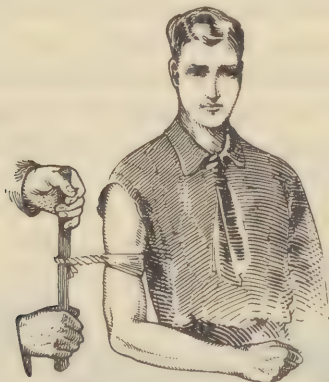


FIG. 39.—Tourniquet being used to stop bleeding from arm.

Pressure by the finger or thumb on a bleeding artery or vein is effective when the position of the vessel is known.



FIG. 40.—Pressure on brachial artery. (*Drill regulations, H. C. U. S. A.*)

This should be taught by demonstration in all first-aid classes.

Bleeding from the *palm of the hand* may be controlled by

folding a clean handkerchief into a tight pad and clasping the hand tightly over it; then hold the hand above the head.

Surgical cleanliness should be observed in dressing all wounds. *Small cuts* can be safely treated at home. After the wound has been cleaned the edges of the skin should be drawn together with a narrow strip of adhesive plaster. This will insure a smaller scar and more rapid healing.

Swelling of the part, *throbbing pain*, and sometimes a chill, indicate infection of a wound and a doctor should be consulted at once (see inflammation, p. 130).

Drowning.—When the patient is removed from the water, open the mouth and with a handkerchief wipe out the mud and water. Turn the patient face downward over a log, or stand astride the body, and slip your hands underneath the abdomen; raise the body and empty the lungs of the water. Keep the mouth open and draw the tongue forward by grasping it with a handkerchief. After this, commence artificial respiration. Lay the patient on his back. Place under the shoulder blades a folded coat or something to raise the chest. Draw the tongue forward and keep it so, while another person kneels at the patient's head. Grasping the wrists, draw the arms out and up well above the head; stretch them, holding them so for three seconds. This expands the chest. Then bring the elbows down, keeping them close to the ground and press them firmly against the sides of the chest for three seconds. This forces the air out of the lungs. Continue at the rate of sixteen movements to the minute until the patient commences to breathe. The effort to resuscitate a patient should be continued for one to four hours before giving up.

When the patient commences to breathe, rub the arms

and legs to help restore the circulation. The wet clothing should be removed and the patient covered with the dry clothing of the others present. When possible to obtain it, heat should be applied as quickly as possible. When within reach of a house the patient should be carried there after breathing has been reëstablished and put to bed. Hot coffee or stimulation and rest in bed is important, as pneumonia not infrequently follows such an accident.

Suffocation from gas and electric shock are also treated by artificial respiration.

EMERGENCIES

Unconsciousness.—Few emergencies cause more excitement than the sudden unconsciousness and falling to the floor of the patient.

Unconsciousness occurs also in convulsions. *The convulsion*, however, is distinguished from other forms of unconsciousness as follows:

When due to an *indigestion* in a baby the first symptoms are the rolling of the eyes and the twitching of the muscles, later followed by rigidity and unconsciousness.

When due to *epilepsy* the patient falls with a cry; he sometimes foams at the mouth, and there is twitching and rigidity of the muscles. The convulsion is brief.

When due to *uremia* the twitching of the muscles and the rigidity are equally severe, which is followed by unconsciousness, and is usually preceded by headache, vomiting and drowsiness.

Unconsciousness as distinguished from *convulsions* is most commonly found in such conditions as:—

Alcoholism, which is indicated by the odor of the breath.

Sunstroke, which is characterized by hot, dry skin, labored breathing and full, slow pulse.

Fainting, which is caused by a diminished blood supply to the brain; thus a weak rapid pulse, paleness and a sighing respiration.

Apoplexy differs from fainting in that the face is flushed instead of pale and the pulse is full.

Hysteria is a feigned fainting or unconsciousness which is easily recognized by the lack of pallor and a weak pulse; if the eyelid is lifted it will twitch and resist.

First aid and nursing care of each is as follows:

Convulsions due to indigestion in children, see p. 169.

When due to epilepsy, see p. 157.

Uremia, see p. 155.

Unconsciousness when due to:

Heat exhaustion and sunstroke are two opposite conditions that may result from the same cause. Heat exhaustion follows a continued remaining in a warm, close room. The symptoms resemble those of shock. The temperature is subnormal and the hands and feet are cold, the pulse weak and rapid; the patient may or may not be unconscious.

Treatment.—The patient should be laid flat on the bed or floor in a darkened room. Heat should be applied to the feet and cold cloths to the head. A hot bath may be given. Stimulation such as strong coffee, wine or brandy, should be given. The patient should be kept quiet until the condition of shock is overcome by rest.

Sunstroke results from a too long exposure to the sun's rays. A very high temperature follows; often as high as 106° to 110° . The treatment should be cold applications to the head and cold baths to reduce the very high temperature. If necessary the patient can be laid on the ground and cold water poured over him. Care must be taken to keep the head cool by cold applications which will aid in keeping the blood from the head.

In very hot weather exposure to the sun is dangerous; it should be avoided as much as possible in the middle of the day.

If obliged to work in a hot room, keep cold applications to the head and have as much ventilation as possible. Light food and cool baths and the doing of errands early in the morning instead of in the heat of the day will lessen the danger of heat exhaustion.

Fainting.—The first symptoms are paleness and a weak dizzy feeling.

If the patient faints while sitting in a chair, tip the chair back until the head is lower than the body, so that the blood will flow toward the head. The windows should be opened and the feet elevated by placing them on another chair. Loosen the clothing about the neck.

If patients fall to the floor, let them lie where they fall until consciousness returns, excepting perhaps the event of the patients falling in the middle of a busy street. *Aromatic spirits of ammonia* held near the nose may help to restore consciousness, and when it returns, a teaspoonful in water given internally will revive the patient.

Avoid excitement and such remedies as throwing a glass of water on the patient's face. Lowering the head and body, fresh air, and a little stimulation and rest afterward are all that is necessary for meeting the emergency.

Apoplexy or Stroke.—The unconscious condition is the opposite of fainting. When the patient falls, or becomes unconscious, the face usually remains flushed, instead of becoming pale. One side of the body will be paralyzed. In many cases the pupils will be of unequal size.

The condition is caused by the breaking of one of the blood vessels of the brain. In this case it is desirable to keep the pressure of the blood away from the rupture.

The patient should be placed with the shoulders and head raised and no stimulation should be given. Cold cloths should be applied to the head and heat to the feet.

Hysteria is the temporary loss of the natural poise of a nervous person. The attack may be caused by fright, grief, anger or opposition to the patient's having her own way, see p. 182.

Patience and kindness are necessary in dealing with such people, but a firm and unyielding attitude in ignoring the condition is the best means of meeting the emergency. In cases of pathetic, overwrought, nervous women a hot water bag to the feet and a teaspoonful of aromatic spirits of ammonia in water will aid the patient in regaining control.

In such cases the building up of the general health, a change of interest and scene and the assurance that there is no other physical cause is all the treatment necessary.

For removing a **foreign body** from the eye or ear, see p. 91 and p. 94.

Ptomaine Poisoning.—This is caused by putrefying food. The symptoms are nausea, vomiting, and intense pain in the abdomen, usually rise in temperature followed by more or less prostration and sometimes collapse and death.

Prompt action in emptying the stomach by producing vomiting, should be the first treatment. Give two or three glasses of warm water and salt or mustard and water, and repeat it the second time.

A physician should be sent for. A laxative of salts or castor oil and an enema is the usual treatment. Such stimulation as the condition of the patient requires, the doctor should direct.

Poison Ivy.—Due to contact with the irritating oil which the leaves contain. The poisonous effect it has on

the skin of those who are susceptible to it, produces an eruption which resembles eczema.

Treatment.—The clothing worn at the time of exposure should be changed for fresh garments, and the others hung in the fresh air until thoroughly aired.

The skin, as soon as possible, should be washed with either alcohol or ammonia and water, or some other alkaline solution. Water will not remove the poison which is contained in an oil. After bathing, a soothing lotion such as lead water or boric acid solution or one of the recognized remedies for it obtained from a physician should be applied. Ointments dissolve the poison and spread it to other parts, consequently should not be used.

Burns and Scalds.—A small burn or scald can be cared for at home, by using a dressing of vaseline, or a solution of baking soda (one teaspoonful to a cup of water).

For a more extensive scald, care must be used in removing the clothing; cut it away rather than run the risk of breaking the skin. For all cases of extensive burns or scalds, a dressing of equal parts of linseed oil and lime water (carron oil) applied by dipping soft absorbent old linen into the mixture and applying it wet enough not to drip, is always a safe remedy. Lard and baking soda, equal parts, is a good remedy. If this is not immediately obtainable, the intense pain can be relieved by immersing the part in cold water to exclude the air until a suitable dressing can be procured. This is a better method than to smear it over with flour and water, which will stick to the skin and may be painful to remove. The object is to exclude the air. All ointments used for dressing burns should be spread an eighth of an inch thick on the cloth used for applying it. When it sticks it should be carefully soaked loose to avoid tearing the injured skin. Blisters should not be broken.

The new method of treating burns by the application of paraffin will undoubtedly be used for extensive or deep burns in the future. At the present time, however, the technique of its application requires hospital appliances and a physician in attendance. When the case can be thus cared for, oils or ointments should not be applied. For the first aid relief from pain the surface should be immersed in cold water until the application of paraffin can be made. Oils and ointments are difficult to remove: as the surface must be rendered surgically clean for the paraffin treatment they should never be applied as first-aid treatment. -

So many children are frightfully burned by falling into a tub or kettle of hot liquid, that the best kind of "first aid" to advise is the necessary caution in preventing such accidents (see p. 232).

When clothing is afire, the important thing is to smother it, for fire cannot burn without air. Wrap the patient in a rug, coat, table cover, shawl, portiere, blanket—in fact, the first thing that can be reached quickly. The patient should not run unless alone and compelled to reach something to smother the fire herself. The mouth should be kept shut and the face protected if it is possible to do so. The clothing should be cut from the parts that are burned and great care used in handling the patient if the burn is extensive.

Bad scalds by steam or extensive burns should be taken at once to the hospital and treated there. If a suitable application can be made at once as a temporary dressing to relieve the intense pain, that should be done, or a dose of morphine given instead.

If the burn is at all extensive, considerable shock follows, and owing to the injury to the skin the kidneys may be affected. The urine should be measured.

Shock.—Every injury, except the most slight, is accompanied by what is called shock. When the ends of the nerves receive a blow they carry the jar to the very delicate brain, and the effect there is called surgical shock or simply shock. Perhaps every one has experienced a severe blow on the finger from a hammer. A sick feeling follows, a clammy sweat breaks out, and weakness and dizziness may follow. This is shock. It is more marked in a severe injury. Shocked people are often unconscious; they do not know or care what is happening around them; they lie prostrate and cold with weak pulse and shallow breathing. This may grow worse and cause death. The point is that one must never forget that in any injury shock is very likely to be present and must be treated.

The *treatment* is to stimulate the body in every way. Lay the patient flat on his back so that the heart can easily pump blood into the brain. Cover warmly, placing hot bottles or bricks around the body, if procurable. Be careful to have them covered so that they will not cause burns. Rub both arms and legs, stroking toward the body, but do not remove the coverings to do so. As soon as a shocked person can swallow, give him a teaspoonful of aromatic spirits of ammonia in an ounce of water, then hot tea or coffee. Keep the patient warm and well covered until recovery is complete. Always send for a doctor unless shock is very slight.

Burns caused by acids should be washed with soapsuds, baking soda and water, or with lime water. Lime water should be used for washing acid from the eye. For burns from alkalies such as lime, etc., use vinegar or lemon juice.

Sunburn is painful and may be relieved by the same treatment used for other burns. Baking soda and lard

or vaseline, equal parts, is a good remedy. The air should be excluded.

Frost Bite.—Through the extreme cold the vitality of the part is lowered and the circulation in it ceases. The parts should be treated with cold water and rubbing with snow until the circulation in the part is reëstablished before the patient is taken into a warm room. The return to heat must be gradual. When the part commences to warm from the rubbing, vinegar and water may be applied and the part exposed to the air for awhile.

Chilblains are frost bite of the feet or hands. They may be prevented by wearing warm gloves and stockings and protection from dampness or wet feet. The solution which photographers use called hy-po is said to be a good remedy to relieve them.

Bites and Stings of Insects.—These are really very slight wounds, in which poison has been introduced, producing a considerable amount of irritation. For mosquito bites, ammonia is the best remedy, as the poison is an acid. The same remedy is also good for other insect bites, including spider's stings. The sting should be pulled out if it sticks in the wound.

Snake Bites and Bites of Rabid Animals.—First aid should consist of tying a handkerchief or hat band tightly about the limb above the injury. The poison should then be sucked out which will not endanger the person who does it if there is no abrasion or break in the mucous membrane of mouth or lips.

The wound should then be sterilized by an application of iodine or cauterized by nitrate of silver or pure carbolic acid, which is done by a light application only; as they burn or destroy the tissue they touch they should be used with extreme caution. The handkerchief or bandage should be loosened at the end of a half hour;

and at frequent intervals thereafter until the wound has been thoroughly cleansed and dressed.

Rabies or Hydrophobia.—The bite from a rabid animal should receive immediate attention by reporting the case at once to the physician. Measures should be promptly taken to take the Pasteur treatment, which will prevent the development of the disease. This serum is provided by the state authorities and it is easily obtainable for all. The animal should be locked up if it is safely possible to do so. A bite from a pet animal not usually showing surliness or snapping should be treated with suspicion. It should be observed closely and safely tied or locked up to await developments. Treat it kindly, for it may be suffering intensely. A rabid animal shows signs of being sick, at the stage when the snapping symptoms appear. If it seems wise to kill the animal, the uninjured head should be saved for examination.

Boils and Felons or Runarounds.—These are due to the entrance of pus germs through little cracks in the skin, which may be so small that they have not been noticed. If a doctor is consulted instead of wasting time in poulticing, much suffering may be saved.

Choking, produced by something lodged in the throat, requires, not artificial respiration, but a smart slap on the back which will dislodge whatever is blocking the air passage. If this does not succeed, raise by the feet so that the choked person is upside down. You may have to slap the back while he is in this position.

ACCIDENTAL POISONING

The first thing to be done is to ascertain what kind of poison has been taken and send for a doctor. If the doctor can be informed of the nature of the case when sent for, valuable time may be saved.

Poisons are divided into two classes, viz., the *narcotic poisons* and the *irritant poisons*.

The **narcotic poisons** are the ones that paralyze the nerve centers. They are usually taken by mouth, and first aid should always be washing out the stomach, or the giving of an emetic of three glasses of mustard and warm water, or warm water and salt, 2 teaspoonfuls of either to a glass of water. Ipecac, 1 teaspoonful every fifteen minutes, followed by a glass of water (three doses) is a sure emetic if obtainable.

The narcotic poisons most generally known are *chloral*, *alcohol*, and the preparations of *opium*, such as *morphine* and *laudanum*.

After the emetic is given, strong coffee or other stimulants should be given and every effort should be made by walking, slapping with a cold, wet towel, etc., to prevent sleep or unconsciousness. In the last stages, artificial respiration should be given to aid the shallow respiration.

For aconite and strychnine give an emetic of mustard and water or use stomach tube.

The Irritant Poisons.—These cauterize and destroy the tissues. The first aid should be the *antidote* which is a drug that counteracts the effects of the poison. This, however, is seldom immediately available, consequently washing out the stomach or giving an emetic should be resorted to.

For rat poison, arsenic, Paris green, corrosive sublimate (bi-chloride) salt peter, bedbug poison, give quantities of white of egg, and milk; then empty the stomach. Then give demulcent drinks such as flaxseed tea.

For the *alkalies*, such as ammonia, lye, caustic soda, or potash, give vinegar or lemon juice and water equal parts; white of egg milk; and morphine to relieve the pain.

For the *mineral acids*; sulphuric, nitric, hydrochloric, and

phosphoric acids, give lime water, chalk, baking soda, or magnesia, followed by emetics and demulcent drinks and morphine to relieve pain.

For Oxalic, Acetic and Tartaric Acids.—Give chalk, lime water, baking soda (one teaspoonful to a glass), white of egg and demulcent drinks.

Carbolic Acid.—Wash the mouth and stomach with alcohol and water equal parts at once to dissolve the acid from the tissue. Then give epsom salts, 1 or 2 ounces dissolved in a half glass of water; then wash out the stomach with a solution of the epsom salts. Oils or demulcent drinks and white of egg can then be given, and shock or collapse counteracted by external heat and heart stimulants.

Iodin.—Stomach tube or emetics. Give boiled starch or flour and water, and demulcent drinks, morphine and stimulants.

Phosphorus.—Stomach tube and emetics. The chemical antidote is sulphate of copper and should be used for the emetic when obtainable. Oils or fats should never be used as they favor absorption.

Ptomaine Poisoning.—When sudden illness comes on after eating and especially if several members of the family are likewise affected the only safe procedure is to take an emetic. Repeat it if necessary to thoroughly empty the stomach; then take an ounce of castor oil.

Mushroom poisoning should be treated in the same way. A doctor should be sent for and in severe cases treatment for severe pain or collapse may be necessary.

For Demonstration.

How to move a patient with a fractured leg.

Nursing care of a fractured hip.

Stopping hemorrhage.

Compressing the large arteries.

The dressing of a scalp wound.

First aid in a case of drowning and artificial respiration.

Caring for a fainting person.

Dressing a burn.

Caring for a case of shock.

Review Questions.

What is a simple fracture? A compound fracture?

Why should a fracture receive first aid before the patient is moved?

Describe some methods of giving first aid.

Discuss the nursing care of a fractured hip.

What is the difference between the bleeding from an artery and a vein?

How would you check it?

How would you check bleeding from a scalp wound?

What would you do first after the rescue of a case of drowning?

Describe artificial respiration.

After the patient has commenced to breathe regularly what should be done next?

What would you do in a case of suffocation from gas?

State four or five conditions of unconsciousness.

What is the difference between heat exhaustion and sunstroke?

How can they be prevented?

How would you treat a case of fainting?

What is the difference between the unconscious condition of a case of fainting and apoplexy? Of hysteria?

What would you do in a case of ptomaine poisoning?

Discuss burns and scalds and first aid for them.

What is shock and how is it treated?

What is frost bite and how is it treated?

What should a person bitten by a rabid animal do?

What is the best treatment for a boil or runaround?

Discuss the narcotic and irritant poisons.

What is the first aid for common narcotic poisons?

What is the first aid for common irritant poisons?

What is the first aid for ptomaine poisoning?

PART II

CHAPTER XVI

SYMPTOMS OF DISEASE

In a course of textbook instruction only it is impossible to demonstrate symptoms. It would be unwise to teach symptoms at all were it not a fact that the primary symptoms of the most common diseases are usually very pronounced and should be easily recognized.

The lack of the early recognition and isolation of a contagious disease may imperil the life and health of others; therefore it seems wise to teach the value of the early recognition of the most common symptoms of disease.

The subject should be so thoroughly covered as to carry the pupil beyond the danger of a little knowledge of the subject suggesting imaginary ills. The writer maintains that the temporary anxiety of a few people is of far less importance than the losing of valuable lives through the too late recognition of the early symptoms of the commonest diseases.

Skill in the observation of symptoms can only be acquired by experience. The home nurse should not attempt to assume responsibility in this respect, beyond stating accurately what she has actually noted such as location of pain, sleep or restlessness, nausea, etc. The doctor's skill will guide him in asking questions, and if the nurse can answer intelligently without "supposing," she will aid him greatly in his work. She should keep a written report on a serious case of illness to avoid mistakes. She should also write out the orders she receives and the hours

coffee and water in twenty-four hours, we pass at least one quart of urine; or from a diet of the necessary food which provides heat and the building up of muscle and bone we maintain a normal body temperature, normal strength and normal weight.

One of the problems the physician has to deal with constantly, is the fact that what is abnormal for one person is a normal condition in another. Many people have an "idiosyncrasy" for certain symptoms, foods or medicines. This may be a perfectly normal condition for one particular person. It does not apply to all functional disturbances, however, and very wise discretion must be used to determine what is normal and abnormal. Every one would make a wise decision in letting the doctor solve the problem.

The best guide to the preservation of health is the recognition of what is abnormal. The old-fashioned idea of a persistent determination to ignore nature's warnings that indicate disease by not "giving up" is responsible for more deaths than from any definite source.

A little knowledge can be a "dangerous thing" but there is a certain safe amount that even the most stupid person can use with intelligence.

Nature's Danger Signals.—To detect these early frequently means preventing sickness and the serious consequences of it. One of the first signs is loss of appetite. This symptom usually means that an over-taxed mind, body or digestion merely needs a rest. If, however, it continues and is accompanied by nausea, vomiting, pain or fever then it is wise to be concerned about it. If the patient will intelligently coöperate with the physician it can soon be determined whether such attacks are due to biliousness (should they recur frequently) or whether they are a symptom of some other disease.

Fever Symptoms.—In a great many diseases the early symptoms are similar. There is a rise of body temperature, hot dry skin, thirst, increased pulse rate, loss of appetite, coated tongue, disgust for food, headache, pain in back and limbs, and perhaps a localized pain which indicates the cause of the disturbance. Except in the latter case, the whole disturbance may be due to a too hearty holiday dinner. At any rate, a dose of salts or castor oil will more quickly decide the real cause than any other test. After this has had time to operate and no rash, sore throat or pain, has appeared, and the symptoms have disappeared, it is safe to say, "The patient will recover."

An abnormal condition that persists should not be ignored.

A tumor growth detected about the body may either be a very unimportant, or a very serious condition, and the uneducated mind should never make the decision.

Scanty urine and puffiness around the eyes and swelling of hands and feet are all abnormal and should receive prompt attention.

Chills.—A chill always indicates that something is wrong, except in the case of an overwrought nervous condition, where it will quickly subside with no rise of temperature. Note if the chill follows any treatment, exertion, or emotion. Observe how long it lasts; if it is violent or whether it is merely a shivering. If possible, take the temperature within a half hour after.

A real chill is always followed by a rise of temperature, and always is an important indication that something is wrong and a physician should be called. It is a serious symptom in cases of a bad cough and chest cold and where in thirty-six or forty-eight hours or longer, it follows childbirth or injury.

Chills also indicate malaria when occurring at definite

or regular periods. The patient should always be put to bed and kept there until the physician determines what is wrong.

During the chill, cover the patient warmly; surround him with hot water bottles or bricks. Hot drinks, such as tea, coffee, hot water, hot lemonade should be given. After it is over, remove covers gradually. Usually profuse perspiration follows, in which case dry the skin carefully under the blankets, avoid draughts and put on a dry, warm gown.

Rashes.—A rash may indicate only a disturbance of the digestion. It is frequently observed in the form of hives in the adult and in a general rash and sometimes hives in babies and children. A rash in any form, however, should never be ignored, for it may be of great importance as a symptom in the development of a contagious disease. A mild attack of scarlet fever may be indicated by a slight rash, often no more extensive than that frequently found in a slight attack of indigestion; but the contagion and danger of complications are equally as great as in a severe attack.

Dropsy.—This is not a disease but a *symptom of it*; it usually indicates a weakness of the heart or kidneys when not caused by abdominal pressure of some sort such as pregnancy. A physician should be promptly consulted and it is very important that his directions are accurately followed. Excellent results are obtained as a rule, if the patient will intelligently coöperate with the physician; it should be clearly understood by the patient that *without such coöperation* he can accomplish but little in such cases.

Urine.—Scanty urine or an abnormally large quantity of urine are symptoms that should receive prompt attention. Remember that two and a half pints of urine in twenty-four hours is a normal quantity to pass. Every

one should drink sufficient fluid to keep the quantity up to that amount. It is not an unusual thing for a partial retention of urine to occur which may result in a painfully distended bladder. In all cases of illness, "Watch the bladder" is an important precaution. Over-distention may occur even when the patient is passing urine regularly. This causes a more or less severe pain over the bladder. There is restlessness, the lower part of the abdomen is distended, and percussion over the bladder gives a dull sound. Hot fomentations may relieve the retention, and if not, catheterization must be resorted to.

For measuring urine, if there is no graduated measuring glass, a muslin strip can be pasted on a quart jar or wide-mouthed bottle and allowing two tablespoonfuls to an ounce, each one ounce measurement can be marked in ink on the strip, until one pint or one quart is indicated on the scale.

To Prepare a Specimen.—Every home nurse will at some time be required to do this. Wash and scald the vessel for receiving it before it is given to the patient. The first urine in the morning is usually used, but if a specimen from the full twenty-four hours elimination is called for, the specimen must be taken from it. In either case use a clean three or four-ounce bottle for the specimen, cork with a clean cork and, without fail, write the patient's name on the label or wrapper. This rule applies to all specimens.

Bowels.—Regularity of the bowels is one of the most important essentials of health. Tendency toward constipation should never be ignored. Effort to correct it should first be made by regulating the diet. Exercise is equally necessary. If this method does not correct the condition, a safe laxative such as cascara sagrada should be regularly taken (see p. 164).

Diarrhea or blood in the stools and painful evacuation of the bowels, are not natural and indicate trouble somewhere in the intestinal tract.

Convulsions.—They should be reported immediately. If the physician can see the patient in one he can quickly determine the cause and prescribe the treatment. Little can be done for a patient in a convulsion except to keep him from rolling off the bed or hurting himself from falling or knocking against something. In cases of epilepsy the usual thing for the nurse to do is to put the handle of a spoon or a pencil between the teeth. The jaws are as rigid as the other muscles, and there is great danger of the tongue being bitten. Press the chin down and force the spoon between the teeth using care not to injure the gums or break the teeth (see emergencies, p. 110).

The skin has an important function to perform. About one pint of perspiration is thrown off normally in twenty-four hours. The condition of the skin plays an important part in diagnosis. Note *the color*, whether white or waxy—pallid or yellow; mottled with white, red or brown spots; sallow or blue; red from fever, or a “hectic” flush of the cheeks; excessive perspiration, night sweats, or odorous perspiration; whether the surface of the body is warm, or cold and clammy. All are important symptoms and should not be ignored. Some are present with certain diseases while others indicate disease.

Pain is often indicated by the position the patient assumes when lying in bed. It may range from a sharp to a dull pain or merely a soreness or tenderness. Its position, duration, and character are important. It must be remembered that pain frequently occurs far from the seat of trouble that causes it; for instance, an indigestion will cause a severe pain about the heart, or a pain in the back between the shoulders. Position of the

patient in bed aids greatly in locating pain. If the heart is affected the patient may be much more comfortable sitting up. Pain in the abdomen is much relieved by flexing the knees; a case of pneumonia lies upon the affected side, thus allowing greater freedom for breathing on the well side, etc.

Cough and **expectoration** has a wide range of variation, and is associated with different diseases. The paroxysms of whooping cough; the persistent cough with expectoration in the physically "run-down" person may indicate tuberculosis, and the "rusty sputum" noticed in the early stages of pneumonia are all symptoms that are important and a physician should be consulted as soon as they are observed.

Inflammation may be considered a symptom. It is caused by infection of the tissues due to infectious germs and is characterized by heat, pain, redness and swelling. The pus-producing germs which cause the infected finger, hand, foot or appendicitis, etc., are indicated by a throbbing pain; there is heat due to the change in the tissues, redness due to the congestion, swelling due to the increased blood in the parts, and pain due to the pressure on the end organs of the nerves.

If the infection is on the hand and faint red lines are seen running up the arm and the glands of the elbow and axilla are enlarged, it is clear that the germs are traveling up the glands and vessels of the arm and immediate and effective measures must be taken. It is a serious infection and will cause pus to form along the tendons and under the muscles if preventive measures are too late. The original wound or point of infection must be kept open, hot moist applications of boracic acid solution or bi-chloride 1-1000 must be kept on the wound constantly, or the hand may be immersed in a basin of the warm solution. This

method applies to all such infections on the surface of the body; the deeper ones, such as appendicitis, are treated with ice bags, etc., to reduce the inflammation. The importance of calling a physician at once for all cases of inflammation cannot be emphasized too much.

Delirium is a complication which often develops in very ill cases of fever and pneumonia. It should be reported to the doctor. Every care should be used not to excite the patient. He should be gently restrained from sitting up or getting out of bed, and should never be left alone for a moment; unless someone can remain constantly at the bedside the patient should be restrained by folding a sheet cross corner wise placing it just above the waist line; fasten it by tying the ends to the frame of the springs or bed, using care not to have it uncomfortably tight across the patient. If there is a very wild delirium, even this method cannot be relied upon as entirely safe.

Blue lips and finger nails indicate a depressed heart action; whether it occurs in apparently good health or in connection with illness, a report of it should be made to the doctor at once.

This chapter will not include symptoms peculiar to children's diseases; they will be considered under that topic.

Gripping Pains.—Acute intense pain in the abdomen may mean a variety of serious conditions, ranging from a simple indigestion to appendicitis, perforated ulcer of the stomach, gall stones, obstruction of the bowel, all of which require the immediate attention of the family physician. The patient should unhesitatingly follow the doctor's advice for removal to the hospital when he sees that it is necessary.

Indigestion frequently causes a pain about the heart, and gives alarming symptoms. The latter may soon

subside, yet the condition may be sufficiently serious to require medical attention.

For Demonstration.

The nurse's report.

Making a measuring glass.

Preparation of a specimen.

Review Questions.

What constitutes normal health?

What are the early symptoms of fever?

Does scanty urine and puffiness around the eyes indicate illness?

How would you determine the difference between a nervous chill and a real chill?

How would you treat a chill?

Should a rash ever be ignored?

What is dropsy?

How much urine should be passed in twenty-four hours? What does scanty urine indicate?

How would you measure urine without a graduate glass?

How should a specimen be prepared?

Is a convulsion a symptom?

What is the function of the skin?

Is pain a danger signal?

When does a cough indicate disease?

Describe symptoms of inflammation.

How would you restrain a delirious patient?

What do blue lips and nails indicate?

What would you do to relieve griping pains in the abdomen?

CHAPTER XVII

CONTAGIOUS AND INFECTIOUS DISEASES

The technical instruction outlined in the foregoing chapters should be thoroughly understood. It leads up to what should constitute the required experience and knowledge for nursing a real case of illness.

Bathing the patient, changing the bed-linen, methods of relief, care of the mouth, temperature, medicines, disinfectants, isolation—all must now be put into actual practice in the sick-room.

Unless the nurse has the necessary technical knowledge thus briefly outlined, a serious case of illness is not safe in her care.

Such symptoms and conditions as are typical of each disease, and the technical points in the nursing care will be systematically but briefly outlined. The daily or semi-weekly bath and general nursing care being understood.

Two important rules: No. 1.—*The skin* plays a very important part in the diagnosis, nursing care, and treatment of contagious diseases.

Many of the serious complications are the results of improper care of the skin during certain stages of the disease.

In all cases when draughts should be avoided, always follow the rule of closing doors and windows before bathing or giving any special attention to the patient that requires turning back the bedclothes. A single blanket should always be used to cover the chest if it is necessary to turn back the bedclothes for any length of time.

No. 2.—Teach the patient *how to cough*. The sound made in coughing is due partly to air passing over the vocal cords, partly to air passing through the windpipe and bronchial tubes and partly to the resonance produced in the chambers of the mouth, throat and nose.

Instead of coughing, and trying to muffle the sound in the throat or mouth, muffle it with a handkerchief. Teach the patient to place a folded handkerchief over the mouth and hold it firmly, as holding it loosely will not accomplish the purpose. This will protect others and harm the lungs much less as a smaller amount of air will be expelled.

This rule should be observed in all cases where infection is carried by the excreta from mouth, nose, throat and lungs.

CONTAGIOUS DISEASES

Mumps.—Period of incubation, fourteen to twenty-one days. Both infectious and contagious.

Time of Isolation.—Contagious from time the first swelling appears till ten days after—usually a period of three weeks.

Symptoms.—Swelling of the glands between the ear and jaw; anything sour causes intense cramp of the gland.

Nursing.—Keep the patient warm; warm or hot fomentations will give some relief. Oil rubbed on the skin will relieve the tight feeling.

Diet should be soft or liquid.

Chickenpox.—Period of incubation, twelve to sixteen days.

Time of Isolation.—From the onset until the last scab has fallen, usually a period of fourteen days.

Symptoms.—Slight fever; after twenty-four hours small pimples appear on chest and face, later on legs and back. The pimples quickly form little blisters; they appear in crops lasting two or three days and very rarely pustulate.

Nursing.—The body should be sponged every day and the scabs well oiled. For the itching, a mild solution of carbolic acid may be applied (1-80).

Cleansing and airing the room is the only disinfection necessary.

Measles.—Period of incubation, nine to sixteen days.

Time of Isolation.—From the first symptoms until desquamation (peeling of the skin) ceases, usually about twenty-four days. Mild cases, twelve to fourteen days.

Symptoms.—Sneezing, watering of eyes and nose, face swollen, sore throat, cough, gradually rising temperature; rash appears first on face and neck.

Nursing.—The temperature of the room should be kept even, about 70°F. The room should be darkened as the eyes are sensitive to light. The bowels must be kept regular; the eyes, nose and mouth kept perfectly clean. The patient must be guarded against exposure to draughts.

Until the peeling is over even if the case is ever so mild, the patient should be kept in bed. Baths should be given to assist the peeling. The diet should be liquid while the fever is high and light food afterward; plenty of water should be given to drink.

Complications are pneumonia, bronchitis, and inflammation of eyes, throat and ears.

German Measles.—Period of incubation, six to eighteen days.

Time of Isolation.—Two days before rash appears until symptoms are gone, sometimes two weeks.

Symptoms.—Very slight fever; rash if any first appears on face, then spreads over the body and may last only a few hours; there may be headache and nausea and sore throat. The lymphatic glands of the neck become swollen.

Nursing.—General treatment the same as in measles.

Smallpox.—Period of incubation, nine to sixteen days.

Period of Isolation.—From onset until the last scab has fallen, usually six weeks.

Symptoms.—Chill, rapidly rising temperature, intense headache, pain in the back and limbs. About the third day the rash or small red, round pimples that feel like shot beneath the skin appear first on face and wrists; then it gradually spreads over the body. About the sixth day they become little blisters or vesicles and two or three days later they change into pustules. Then the secondary chill occurs, the temperature rises to 104° to 106° . Pus oozes from the pustules and in about three days they dry up into scabs, and have an offensive odor; after a week or so these crusts fall off and leave the "pock marks."

There is *delirium*, the face is swollen and disfigured; the bowels may be constipated or there may be diarrhea; the urine is scanty.

Nursing care consists in isolation and using every known precaution to prevent the spread of the disease.

Cold packs may be ordered and heat may relieve the pain in the back and limbs.

The pitting can to a certain extent be prevented by covering the patient's face with a mask soaked in carbolic solution or by applying some simple ointment, and darkening the room; do not prevent free ventilation in doing this, however.

The eyes, nose and mouth must be washed four times a day. Crushed ice, soda water and lemonade, may be given for thirst.

Everything that can be burned, both during and after the patient is well, should be destroyed by burning. The room and furniture should be disinfected and fumigated at least twice. Nothing should be left undone to prevent

this dread disease from being transmitted to another person. Smallpox is seldom nursed at home.

The best prevention is vaccination, which is a duty every parent owes a child.

Scarlet Fever.—Period of incubation, one to seven days.

Time of Isolation.—Six weeks. It is both infectious and contagious.

Symptoms.—Sudden vomiting, sometimes chill or convulsions, high temperature, sore throat, tongue coated on edges, bright red in center, typical rash appearing first on chest and shoulders; high temperature, rapid pulse, bowels constipated, scanty urine and high-colored. Rash appears on second day. Temperature commences to fall on the fifth day and desquamation (peeling of skin) begins. This peeling lasts for three weeks, and is largely the source of infection. Nothing must leave the room without first being disinfected or boiled.

Nursing.—The diet should be liquid and the patient should be given plenty of cold water to drink.

Baths must be followed by oiling the body with cocoa butter, olive oil, or vaseline. This will assist the peeling and prevent the particles of skin from flying about.

The *nose, mouth* and *throat* must be kept clean. The ears should be carefully watched and any pain or discharge reported to the doctor. Inflammation of the middle ear is a very common complication, and deafness may result if the nurse is careless about their care. Dry heat can always be applied for relief until the doctor arrives.

The urine must be carefully watched and accurately measured. Inflammation of the kidneys is a very common complication and is usually indicated by puffiness of eyelids, face and limbs, paleness, headache and smoky urine. It may develop into uremia and the most careful coöperation with the doctor is necessary in observing

and reporting any of the above symptoms. It is of the utmost importance to protect the patient from taking cold which may bring on such complications.

Inflammation of the kidneys (nephritis) appears as frequently in a mild case of scarlet fever as in the more severe forms. It may be due to the lack of careful attention to the prevention of colds and draughts, when the child is out of bed and playing about. The danger is not past for several weeks and the urine should be carefully measured during the entire time. If any decrease in the usual quantity is shown it should be reported to the doctor at once.

Specimens of urine at frequent regular intervals will be required by the physician for examination. In caring for a case of scarlet fever every effort should be made to prevent the development of a permanent Bright's disease, which is a life-long handicap.

Diphtheria.—Period of incubation, one to six days.

Time of Isolation.—From onset until the germs have disappeared from the throat.

Symptoms.—In the beginning of the disease the temperature is not as high as in tonsillitis. The patient has headache, nausea, sore throat with white patches on the tonsils.

Nursing and Treatment.—The anti-toxin treatment is such a perfect remedy that there is no need of a serious case of diphtheria developing if prompt aid is given. It is an extremely infectious disease and the poison carried through the body has a very direct action on the nervous system and frequently causes paralysis. In a bad case there is constant danger of heart failure from the depressing effect of the poison until convalescence is over. When the diphtheritic membranes extend to the nose and larynx there is an offensive discharge from the nose, nosebleed,

gradual loss of the voice and difficult breathing. As the membrane more and more obstructs the breathing signs of suffocation appear; the child gradually becomes blue in the face.

When these symptoms commence to appear the nurse must send in great haste for the physician and state the cause of her alarm, so that the doctor may come prepared for any emergency. He may take the patient to the hospital, which is usually done. It is the safest way of saving the patient's life when such complications arise and the technical care of such a case requires the experienced nurse.

The rules of disinfection of all discharges must be followed rigidly. The air in the room must be kept moist, either by kettles of boiling water, steam inhalations, or by wringing a sheet out of water and hanging it up to dry.

The doctor's orders must be followed implicitly.

Nourishment and stimulants must be faithfully given.

The urine must be observed; it will be high colored and scanty, and there may be retention owing to paralysis of the bladder.

There is great depression and the patient *must not sit up in bed* until allowed to do so by the doctor's orders. The nurse should follow the rules on page 83 for her personal protection.

Emergencies.—Tracheotomy and intubation is performed in the extremely severe cases, where breathing is obstructed and the home nurse may sometime be called upon to help meet the emergency. Many lives in the past could have been saved if those in attendance upon the case had had the practical experience necessary to meet the emergency.

The operation of tracheotomy or intubation is performed by the physician; but the inexperienced nurse can help

greatly to save the life that hangs in the balance by keeping her senses about her and performing quickly and accurately the things he will tell her to do. If he tells her to hold the child so that it cannot struggle or move its hands and interfere with his work—she should hold it just that way. It must be held still and prevented from struggling. Pay no attention to how ill it looks or your fear that it may be dying; think only of the necessary aid the doctor must have to save its life.

One of the best ways to hold a struggling child for throat or head emergencies is to take a long towel like a roller towel cut open, for a baby or young child, or a sheet folded in half for an older child. Hold the arms down straight to the body and fold the sheet around and around the child as high up as the neck and quite firm enough to prevent his raising the arms or struggling loose. The nurse then holds the child on her lap facing the doctor; as she holds the child with one arm and hand with the other hand she can hold the head firmly against her chest.¹

INFECTIOUS DISEASES

Typhoid Fever.—Infection is caused by water and food which have become infected through lack of precautionary measures in other cases of typhoid.

Symptoms.—Some of the first symptoms are headache, pain in the back and limbs, nosebleed, gradually rising temperature, nausea, either constipation or diarrhea, with yellow watery stools, and abdominal pains, due to the ulceration developing in the small intestines which characterizes the disease.

Proper nursing care is of the greatest importance in saving the patient's life. Without it the mildest case may result fatally while the severest case with the most serious

complications can be saved with skillful nursing. Even the doctor's treatment is secondary to the importance of skillful nursing.

For convenience, the course of the disease may be divided into three periods, viz.:

Early Stage.—With the loss of appetite increasing weariness and headache, rest in bed and liquid diet is most essential. Temperature rises gradually and as the symptoms develop the patient is ill and looks ill. Much loss of strength would be saved and other members of the family protected from the infection if the laity had a general and safe knowledge of the value of early precaution in such cases.

The doctor should be called early and it will only require a few days to decide the issue. The patient grows ill rapidly as the fever gradually rises, and certain symptoms, such as the rose spots on the abdomen, decide the diagnosis.

Second Stage.—A high temperature which is two or three degrees higher in the evening than it is in the morning, runs a course of from two to three weeks, after which it gradually declines to normal.

Third Stage or Convalescence.—This is the tedious time for the patient, for food cannot be given until ten days after the temperature has become normal. Hunger and weakness have to be endured until it is safe to give even semi-solid food. It is also a very critical time because feeding may cause a relapse which is not at all uncommon.

Nursing care in the early stage should consist chiefly in apprehending the condition and taking early precautions against spreading the infection; rest in bed, milk or broth for diet and calling the doctor early.

The *rules for disinfection* of bath water, nurse's hands, patient's dishes, bed linen, and stools, should be rigidly

followed. (Chloride of lime 1 lb. to 4 gallons of water; 1 quart should be poured on each stool.) This rule continues throughout the entire course of the disease.

Nursing care in second stage will probably require cold sponge baths or packs (see page 67); special attention to the care of the mouth (see pages 45 and 48) and prevention of bed sores.

A daily bath should always be given and bed linen changed almost every day. Liquid diet, chiefly broth, perhaps milk, albumen lemonade, etc., should be given; also plenty of pure drinking water or seltzer.

After each nourishment *the mouth should be washed*. The patient should be turned more or less frequently. If delirious, precaution must be taken to prevent his getting out of bed.

Delirium usually first appears at night and takes the form of a desire to get out of bed or that of a persistent idea of doing something. (See delirium; p. 131.)

The *temperature* rises a little higher each evening, reaching 103° at the end of the first week; from the third to the fifth week it commences to as gradually decline or fall by lysis (gradually).

The *pulse* is full and does not increase in rapidity in proportion to the rise of temperature; it does not become rapid or weak until the end of the second stage.

The temperature pulse and respiration are taken every two or three hours throughout the course of the disease. They should be charted at the time they are taken as should also all other treatment and records.

At the end of the second stage serious complications may arise.

The *ulceration* may open one of the larger blood vessels causing hemorrhage of the bowel, which is indicated by a sudden fall of temperature, a small rapid pulse, sighing

respiration, pale face, anxious expression, restlessness, faintness with demand for air, and blood in the movements which when passed is almost black. At any time a dark stool indicates hemorrhage into the bowel which may not, however, be severe enough to produce the other pronounced symptoms of a severe one.

For the treatment, elevate the bottom of the bed by placing it on a chair or putting blocks under the legs. Put ice cap or ice cold packs on the abdomen; keep the patient perfectly quiet; send for the doctor.

Perforation is another very serious complication; it is caused by the ulceration weakening and breaking open the bowel; the contents of the bowels empty into the abdominal cavity and cause peritonitis.

The symptoms of perforation are a sudden sharp pain in the abdomen which becomes distended; vomiting, a fall of temperature, a small rapid pulse and symptoms of collapse. Send for the doctor, put hot stupes on the abdomen and keep calm and cheerful.

During the critical periods of hemorrhage or perforation the daily bath is discontinued and the patient is moved as little as possible.

Prevention of bed sores begins with the early stages of the disease and should be practised throughout the entire illness.

Convalescence.—A return to semi-liquid or light diet should be made only by the doctor's orders. The usual cause of a relapse is the too early partaking of solid food. Great vigilance on the part of the nurse is necessary as the patient through being ravenously hungry may persuade some one to bring him food. He should be cheered along with encouragement that he may soon have food; he should be entertained, but never to the point of weariness.

The diet must remain liquid until the temperature has remained normal for ten days, and then light food such as soft or coddled egg, toast, etc., may be given.

Any elevation of temperature must be reported to the physician. It may be an error in diet or due to constipation or excitement, and it may mean a relapse; therefore, it never should be ignored.

The anti-typhoid serum is now almost universally used to prevent this disease; its use will save thousands of lives every year.

Pneumonia.—It is most common in children and elderly people. It is usually caused by the germ called pneumococcus. It is also caused by poor circulation in aged people, by injury, or by irritation of the lung which may result in a congestion.

The predisposing factors to this disease seem to be exposure to cold or sitting in damp places until chilled, etc. That it is more common during the fall and winter indicates the danger of colds and exposure to cold.

Symptoms.—Usually a sudden chill, which lasts a long time, is the first indication of the disease. The temperature rises rapidly to 102° to 104° . There is sharp pain in the chest and rapid respiration; breathing is shallow and often irregular; there is a short dry cough, and later the rusty sputum appears. The bowels are constipated and the urine high-colored and scanty. The patient will feel ill from the beginning of the chill and the physician should be sent for at once.

Nursing.—The patient should be put to bed, hot water bottles applied, hot drinks given and under no conditions should he be allowed to remain out of bed or to exhaust his strength in any way. The chances of a good recovery are greatly lessened if his strength is exhausted by the foolish notion of not "giving up."

The sick-room should be a sunny room, easily ventilated, but free from cold, draughts, and kept at a temperature of 70°F. A fireplace is of particular aid in such cases.

Plenty of warm fresh air is absolutely necessary. The inflammation of the lung substance blocks the air cells and interferes with the proper oxygenation of the blood. This is a heavy tax on the heart, and everything that will save the strength of the heart's action is usually the prescribed treatment. Either hot fomentations or ice bags are ordered for the pain in the chest, while many physicians prefer the cotton jacket.

To make a *cotton jacket quickly*, take an old undershirt and cut off the sleeves at the armpit; rip it open down the front; baste inside a layer of cotton batting as far down as the waist. Old muslin cut to fit the chest can also be used by placing the cotton between the layers and fastening them together on the shoulders and sides.

Coughing should be restrained as much as possible for it exhausts the patient.

Old linen or gauze should be used for the expectoration which is sticky. The cloths should be burned after use.

The sputum contains the germs of the disease and is highly infectious; therefore, the usual rules for proper disinfection of all sources of infection, and of the nurse's hands should be followed.

The temperature will remain high from seven to nine days during which time special attention must be given to the mouth (see page 45).

There may be delirium, in which case the patient must never be allowed to sit up or toss about; a delirious patient should never be left alone.

The patient will lie in the position he finds most comfortable but he should be turned about every two hours.

After the disease has run its course the temperature drops suddenly. This is called the **crisis**. It is indicated by profuse perspiration, the breathing becomes easier, and the pulse rate decreases. The danger of heart failure is particularly acute at this stage and the patient should be watched closely and extra heat applied. If he shows signs of collapse, such as subnormal temperature (below 97.4), small rapid pulse, coldness of extremities, blue lips and fingernails, every effort must be made to meet the emergency. The doctor should be sent for; hot drinks and stimulants given, extra blankets and hot bottles applied to the limbs and every strain or exertion prevented. Baths should be discontinued and the patient disturbed as little as possible for the next 24 or 48 hours. Throughout the progress of the disease the urine should be watched.

A *liquid diet* is always given, with plenty of water to drink.

Convalescence is a critical period for the heart is weak and sudden extra strain may result fatally. It should progress slowly with a light and nourishing diet and plenty of fresh air; a daily bath should be given; after the early stage of convalescence is over recovery is quite rapid.

Infantile Paralysis.—Latest developments indicate that flies and dust are carriers of this infection, since nearly always epidemics occur in the hot, dry months. The germ enters the body through the nose, throat and intestinal tract. Therefore, all discharges or excreta should be disinfected.

Symptoms usually appear suddenly; they are vomiting, rise of temperature, pains in the legs and sensitiveness to the touch followed in a few days with paralysis of one or more muscles. The paralysis commences to decrease

after three weeks and gradually decreases for an indefinite length of time.

The early *nursing care* differs with the judgment of the physician in treating the case. Usually the child is kept warm and quiet; good nourishing food is given. In the later stage, warm baths are given (to relax the muscles) followed by massage.

Whooping Cough.—The mucus from the nose and throat is very infectious. It begins with what seems a feverish cold. About the tenth day fits of coughing occur, gradually becoming more violent, developing into paroxysms and sometimes vomiting. During the paroxysm the child may become blue and his appearance alarming, but this will pass off and usually the general health is but little impaired unless the attack is unusually severe.

The whoop, which is characteristic of the disease, is due to a long drawn inspiration and spasmodic closure of the glottis. It is always the diagnostic point of the disease. The whooping stage lasts about three weeks, although the cough may continue three months.

Treatment.—Use precautionary measures to avoid spreading the disease. Fresh air, sunlight and nutritious food is essential. Sea air is excellent for the child. The very prolonged cough should have the attention of the physician to determine that no other complications or disease has developed.

If given early in the attack the serum for whooping cough gives excellent results by preventing a severe attack.

Tuberculosis. *Symptoms.*—The acute form has rise of temperature especially in the evening, profuse perspiration at night, loss of weight and strength, labored breathing and a short hacking cough. The chronic condition develops more slowly. The patient may linger for years.

Tuberculosis is not contracted by coming into contact with a patient suffering with the disease but by inhaling dust containing germs from the dried sputa of some careless consumptive person or nurse. The death rate from this disease is higher than from any other disease. Therefore, the sputa must not be carelessly expectorated anywhere when coughed up but must be spit into proper cups or paper napkins and burned which is the only safe way to protect others. All clothing should likewise be protected, and disinfected, and the patient should avoid touching things that other people must use, unless his hands have been disinfected, which should be done frequently.

Perfect cleanliness, plenty of sunlight and fresh air, both day and night, nourishing food and plenty of it, and rest in bed in the fresh air, are briefly the important things in the treatment of a person afflicted with this dreaded disease.

Nursing Care.—From the beginning the importance of rest in bed and a cheerful mental attitude toward accepting the situation and meeting its requirements should be emphasized. It is a part of the battle for health that the patient must face courageously.

No matter what treatment is prescribed, unless *rest in bed in the fresh air* is included as a part of the treatment, satisfactory improvement is not shown.

Nourishing food is essential as part of the treatment.

Plenty of sputum cups, paper napkins and paper bags should be plentifully supplied and burned after being used.

Rubber air cushions and rings and plenty of fresh bed linen are needed.

The patient should occupy the sick room alone. The nurse should not sleep in the same room with the patient.

A mother should not nurse her baby when afflicted with the disease nor refuse to give up the care of her children under such circumstances.

Scratches or cuts on the hands of the patient or nurse should be kept covered as it is possible for the germ to enter the blood from such a source.

Special attention must be given to relieving the points of pressure due to emaciation by the use of air cushions and rings; close attention must always be given to the prevention of bed sores and a daily bath given.

How to cough should be taught. The education of the patient in covering the mouth when coughing and in how to suppress and control an irritative cough is important. Every effort that uses up the strength of the patient should be avoided; the patient can do a great deal toward preventing unnecessary loss of strength by controlling the cough as much as possible.

Steam inhalations are sometimes effective in relieving a persistent cough without much expectoration.

Hemorrhage.—This occurs suddenly and is a distressing and alarming complication for the patient. The patient must be encouraged and excitement avoided. Lay the patient's head low. The blood is thrown up much the same as though it were vomited. The nurse turns the patient's head to the side and holds a small basin close to the face much the same as for a nauseated patient. An ice bag is placed over the heart and the patient should be given chipped ice to swallow. The physician must be sent for, and fear must be combated with cheerfulness and assurance that it is not a serious case.

Suitable wraps for sleeping and sitting out of doors must be obtained. If the essentials for proper nursing care cannot be afforded they should be obtained from the anti-tuberculosis societies.

It is usually a serious family problem to provide suitable conditions for caring for such patients at home. Every one afflicted with the disease who can afford it, should go to the private sanatoriums, for the treatment requires so many special appliances that all patients would be better cared for under such circumstances.

Those who are without means should not hesitate a moment to appeal to the local or state anti-tuberculosis societies that are organized and financed for the express purpose of caring for those who are financially unable to care for themselves. If the home conditions are such that suitable care can be given at home, patients at least should seek the council of both doctors and nurses provided by these societies, since they make the work a study and are above all others both qualified and interested in giving the necessary advice and aid.

For the protection of innocent victims, if not for themselves, patients owe this coöperation to their fellow men in fighting the great "white plague."

The writer thinks this advice far safer than the attempt to advise by description the arrangement of the details necessary for open air treatment.

Meningitis (Cerebro Spinal).—This is an inflammation of the brain and spinal cord. The *nursing care* consists in shielding the patient from all noise and disturbance; the room should be kept darkened and ice caps kept on the head. Give plenty of water to keep the kidneys active.

Sedative medicines to relieve pain, and the serum injections are the latest method of treatment.

Syphilis.—A general disease affecting the blood and all the tissues of the body. It is sometimes contracted through public drinking cups; kissing; smoking strange pipes; public water closets, etc. The principal cause however is immoral habits. The virus enters the body

through a scratch or abrasion. The external symptoms first appear at the place infected—the mouth, genital organs, etc.—in from ten days to three weeks. It is first shown by a small sore which becomes hard; it may form an ulcer or it may disappear. The neighboring glands may be swollen.

After six weeks the *second stage* appears. Some of the symptoms are headache, sleeplessness, irritability and a characteristic eruption; ulcers form in the mouth and about the genitals. The secretions from the ulcers or sores are extremely contagious and dangerous.

Everything coming in contact with the patient should be thoroughly disinfected. The nurse must take every precaution; rubber gloves should be worn and everything used by the patient must be kept entirely separate for his use only.

Anyone afflicted with this loathsome disease should place himself in the hands of a physician at once, and every detail in his directions should be followed in order to protect others from the disease.

The effect this disease leaves on the constitution predisposes the patient and the generation following him to many constitutional weaknesses.

Treatment.—During the first and second stages it is curable if treated, although it requires a period of two or three years of medical treatment. Nothing should prevent the patient's following directions accurately, for his own life sooner or later, and the health of the generation following him will depend greatly upon the cure of the disease while it is curable.

Gonorrhea.—Like syphilis this is classed as one of the venereal or immoral diseases. It is more common than measles and usually affects the genital organs, producing an inflammation and later on offensive, thick, pussy discharge,

which is very infectious, and everything coming in contact with the patient should be disinfected by the usual methods for such cases. The patient should be warned that this infection will cause a very serious inflammation of the eyes through carelessly rubbing them with the hand.

At least three months faithful treatment is required to cure this infectious disease.

For Demonstration.

Preventing exposure of the skin when giving baths or oil rubs.

Disinfection of excreta.

Proper ways of holding a child for throat examination.

Making the pneumonia jacket.

How to care for the "crisis" in a case of pneumonia.

The necessary body and bed clothing, and the proper equipment necessary for fresh air treatment of a bed patient suffering from tuberculosis.

Review Questions.

How and why should you protect the skin from draughts?

Why should the mouth be covered when coughing?

What can be done for the patient in a case of mumps?

In what order does the rash appear in chicken pox?

What are the symptoms of measles and where does the rash first appear? Discuss nursing care.

Describe the first appearance and development of the rash in smallpox. Discuss nursing care.

Describe the typical rash and tongue of scarlet fever.

What are the important nursing points to be remembered?

What are the nursing points to be remembered in a case of diphtheria?

What are the important things to be remembered in the first stages of typhoid fever?

What kind of diet is always given? Why should plenty of water be given?

Give an outline of the nursing care. Discuss each point.

What are the symptoms of hemorrhage?

What is pneumonia?

Discuss nursing points to be remembered.

What is the crisis? What are the symptoms?

Discuss infantile paralysis.

Discuss whooping cough.

How is tuberculosis contracted?

How would you prevent spreading the infection?

Discuss the treatment of the disease.

Discuss the stages and importance of the cure of syphilis and gonorrhea.

CHAPTER XVIII

NON-CONTAGIOUS DISEASES

Acute Appendicitis.—The first symptom of appendicitis is a more or less intense pain beginning in the right side or hip and running up to and across the stomach; there may be nausea. The patient lies on his back with the knees drawn up and there is tenderness in the right side. The temperature may rise or it may be subnormal.

The patient should be put to bed and a doctor sent for.

Either hot or cold applications may be applied to the abdomen. Place a big pillow under the knee to support it in the flexed position. Stop all food and give nothing but water to drink. No laxative should be given. Surgery sooner or later is usually necessary and frequently is not resorted to early enough.

Apoplexy is a sudden loss of consciousness, power of motion and sensation, due to hemorrhage into the brain from a broken blood vessel (see p. 112). The unconsciousness differs from fainting in that the face remains flushed and the pulse full; one side of the body will be paralyzed. The patient should be put to bed with the head and shoulders elevated; an ice cap or cold cloth should be put on the head and a hot water bag to the feet.

Protect the mattress from involuntary urine. The breathing will be peculiar and the mucus should be wiped from the mouth and throat. To make an unconscious patient swallow, put the medicine far back on the tongue and close the lips and nostrils; involuntary swallowing will result.

The patient may recover entirely or a whole or partial paralysis may result. In the latter case the directions given for the care of the chronic invalid (page 52) should be followed with close attention to prevention of bed sores from the beginning. Excitement must be avoided and a quiet life led.

Anemia.—This is generally characterized by pallor of the face, lips and finger nails, palpitation of the heart, headache and loss of strength. It is due to a deficiency of red corpuscles in the blood. Fresh air, rest and diet, regularity of the bowels, and a physician's direction for taking iron, is the treatment.

Bright's disease is an acute inflammation of the kidneys; if treated at once and strict attention is given to the doctor's orders, usually it can be entirely cured. However, it can exist in a more or less mild chronic form for an indefinite number of years if the patient is willing to obey instructions. The skin must be kept active to relieve the kidneys as much as possible. Plenty of water must be taken; bowels should move at least once a day. If there is almost total suppression of urine, hot packs or steam baths are given (see p. 69). Rest in bed and prevention of colds or allowing the skin to be exposed to cold or draughts is essential. Milk diet is always given in the acute stage and plenty of water to flush the skin and kidneys should be taken. In the last stages the patient will be more comfortable propped up in bed or he may sit up out of bed in an easy chair well protected from cold by pillows and blankets.

Uremia is a serious complication of Bright's disease. Its approach is indicated by headache, vomiting and drowsiness. It is usually relieved by steam baths and hot packs.

The uremic convulsion frequently resembles the epi-

leptic fit at its onset, but is readily distinguished however from epilepsy by the unconsciousness which follows.

Bronchitis.—Bronchitis is an inflammation of the air passages which lead to the lungs. Poor ventilation, living in too warm rooms and too much wrapping up, render a person more susceptible to bronchitis when exposed to cold or wet.

Hot, moist applications to the chest will relieve the pain; for a severe, painful cough that cannot be controlled, moist air as for the treatment of croup (see p. 168) will often give relief.

Cancer.—This is primarily a surgical disease, and so important is the early discovery of its development that an anti-cancer society has been formed for the purpose of informing the laity of the importance of giving early attention to the first indications of the disease. The number of deaths from cancer is equal to that from tuberculosis. Physicians are still unable to determine what causes it or how to cure it except by surgery.

The fact that surgery frequently fails to save life, is not due to the wrong advisability of it, but because of its not being resorted to early enough. Unfortunately, the disease is often far advanced before it is discovered.

When an irregular or unaccountable flowing from the uterus occurs, every woman should know that such a condition is not normal. It may only be a trifling disorder; but it is also one of the early symptoms of cancer. The only safe rule to follow is to place the case under the observation of a reputable physician.

Cancer of the breast can easily be detected early by the presence of a lump. It may be a simple tumor or it may be a cancer. If it is cancer it is of the greatest importance that it is removed within six months after its development. (See page 126.)

Diabetes is characterized by the presence of grape sugar in the urine, and by the excretion of large quantities of urine.

The treatment required is a restricted diet prescribed by the physician. Fresh air and regular but mild exercise without over-exertion is beneficial. All undue exposure should be avoided. An accurate measurement and note of frequency of the urine passed must be kept.

Diabetes in children is not unusual. It should receive the earliest attention possible.

Diarrhea (Acute).—The patient should be put to bed. Castor oil, one ounce and laudanum fifteen drops (for an adult), should be given.

Liquid diet—boiled milk, and rice, cornstarch, or flour gruels, should be given three or four times a day.

Dysentery is an inflammation of the mucus membrane of the large intestine. It begins with diarrhea; there are frequent bowel movements mixed with blood and mucus, and severe pain. The movements should be disinfected.

Nursing.—Rest in bed. The patient should use the bed pan. Hot turpentine stupes may be applied and the doctor sent for. Liquid diet of boiled milk and gruels, and a carefully selected light diet is given when improvement begins.

Epilepsy is a disease of the nervous system. There is sudden loss of consciousness, characterized by a certain kind of convulsion which lasts but a few moments, after which the patient usually falls into a deep sleep. The patient may, however, remain unconscious but a few moments and recover at once.

Treatment.—If possible, allow the patient to lie where she falls until the convulsion subsides. It lasts only a few minutes. Do not get excited over such cases. The only thing to do is prevent the patient from biting the tongue

by placing a pencil or folded handkerchief between the teeth. The jaw will be quite rigid; press down on the chin and use care when forcing anything between the teeth not to break them or injure the gums. Loosen the clothing about the neck and restrain the movements enough to prevent the patient's injuring herself by knocking against something.

Freedom from mental worry and excitement, and exercise in the fresh air; chiefly a vegetable diet and a regular movement of the bowels each day may aid greatly in the general prevention of frequent convulsions.

Heart disease is a common affliction. When it is known that the heart's action is impaired much can be done to prolong life if the physician's orders are observed. The nursing care of a bed patient is much the same as in a case of Bright's disease. The patient is usually more comfortable propped up in bed. An air cushion should be placed under the back to prevent bed sores. The patient may be more comfortable in an easy chair. All excitement and worry must be avoided, and fresh air is important. Where there is an acute endocarditis ice bags are applied over the region of the heart.

Food should be given in frequent intervals; it should be light and nourishing. Starches and sugar should be somewhat restricted because of causing flatulence which is common in heart cases.

Where dropsical conditions occur, the position the patient finds most comfortable should be arranged. Plenty of pillows and a comfortable arm chair and foot-rest are necessary. The swelling of the legs may require flannel bandages and heat to the feet is nearly always needed. Sleeplessness is common and the patient is usually worse at night than in the day time. General nursing care is all that can be done outside of the treatment.

Hives are usually due to some form of indigestion. They are most commonly due to certain peculiarities in digesting certain foods, such as strawberries, cheese, lobsters, crabs, mushrooms, tomatoes, pork, etc.

The treatment should be a saline laxative such as epsom salts. To relieve the itching, equal parts of vinegar and water or carbolic solution 1-40 should be applied locally. Drinking large quantities of water and studying the cause is the best way to prevent recurrent attacks.

Influenza or la grippe is an acute infectious disease; characterized by fever, pains in the head, back and limbs, great prostration, chilliness, sneezing, hoarseness and cough.

Nursing Care.—The doctor should be sent for; he will prescribe for the pain. Hot applications to the head, chest or limbs may help relieve the ache. Guard against draughts; keep the room warm, but well ventilated.

The complications are pneumonia, infection of the frontal sinuses and mastoid cavity, and inflammation of the kidneys, sometimes heart failure. Strength is regained slowly, and the patient should not become discouraged.

Tetanus or lockjaw is caused by an infecting germ entering a fresh wound. The germ exists in the earth.

The early symptoms are stiffness of the neck after which the muscles of the face and jaw become rigid. A physician should be consulted at once.

The anti-tetanus serum is now used for the treatment. If given early enough it will prevent the disease. If it should develop, however, the nursing consists of keeping the patient perfectly quiet, in a darkened room. He should be disturbed as little as possible. There may be retention of urine and the bowels must be kept open and regular.

Lumbago.—A rheumatic affection of the loins. Cold must be avoided. Rubbing and deep massage or hot, dry applications will give some relief. Such heat is applied by placing the patient on his stomach; cover the back with a blanket and iron with a hot flat iron. The attack may subside slowly.

Malaria.—Malaria is an infection of the blood by the malarial parasite which is introduced by the bite of a certain species of mosquito known as the anopheles. It is characterized by a heavy chill, followed by high fever, which remains high a few hours, then returns to normal with a profuse sweat.

Nursing.—During the chill the patient should be well covered, and hot water bags applied to the feet and axilla. The fever stage should be treated with cold compresses on the head and a sponge bath or alcohol rub.

The doctor will direct the medical treatment. Where mosquitoes exist doors and windows should be screened and a community movement started to drain their breeding places.

Tonsilitis is considered a communicable disease due to bacteria. Its symptoms may be white spots on the tonsils or there may develop an abscess formation known as quinsy. The patient usually feels ill out of all proportion to the local condition.

The usual treatment is local, such as hot or cold applications to the throat, bound on with a towel (see Preissnitz compress, p. 70). The mouth and throat are washed and gargled with an antiseptic solution such as peroxide of hydrogen diluted two parts or salt and water solution. Liquid diet should be given for a couple days. The serious complication of a rheumatic inflammation of the heart sometimes follows. Because of this danger, care should be taken to avoid exposure to cold, wet impure air.

Pyorrhea or Riggs's disease is a very common disease of the gums. It is caused by the infection of the soft tissue following a slight injury (such as tearing the gum with a tooth pick) or by the accumulation of tartar about the edges of the gums, which frequently extends to the roots of the teeth.

The disease is first recognized by an inflammation of the gums or by a red spongy condition between the teeth which easily bleeds. When the disease is well advanced pus oozes from the cavities of the teeth.

The proper cleanliness of the mouth and teeth and massage of the gums by rubbing them firmly with the finger to harden them is the best method of prevention but when the disease is suspected a competent dentist should be consulted at once.

The ill effects of pyorrhea extends far beyond the local condition.

Eminent bacteriologists have discovered that many diseases besides the so-called communicable diseases are caused by bacteria.

It has been proven that pyorrhea and diseased tonsils are frequently the cause of bacterial infection which results in such diseases as rheumatism, appendicitis, inflammation of the gall bladder, gastric and intestinal ulcer, inflammation of the joints and inflammation of the heart.

The blood carries the infection to different parts of the body: where such groups are deposited they will live and grow for long periods of time. An early diagnosis and treatment of the condition in its acute stage may prevent a permanent injury to the parts affected. Many chronic diseases are the result of inattention to or lack of cure in the acute stage of such infections.

Rheumatism.—This is now regarded as a form of infection, probably due to diseased tonsils and bad teeth.

Exposure to cold and damp frequently brings on an attack. When the joints are afflicted they are very painful; sanatorium treatment is often necessary; it is usually successful if taken early.

Rheumatic patients are sensitive to cold and should always sleep in flannel gowns and between thin blankets in cold weather. Heat applied, and sore joints wrapped in cotton, will give some relief. Different medication and treatments are used.

When nursing such cases every gentleness possible should be used in moving them. There is danger of an inflammation of the heart, thus leaving the patient with a valvular heart trouble. Caution in regard to this serious complication should always be the rule. When it occurs, rest in bed and close attention to the doctor's orders are very necessary.

Skin diseases require special treatment and the general rule to follow is utmost cleanliness on the part of both patient and nurse. Many of these diseases are infectious, and very difficult to care for. The only rule to follow in the treatment is the doctor's direction. Faulty diet is frequently the cause of skin diseases. The system is clogged with too much waste matter; in the process of the elimination of waste the skin is affected.

Colds and Coughs.—Probably the ordinary cold is the commonest sickness. Colds may be prevented by not sitting in a draft, especially when heated by exercise; by changing wet clothing or shoes as soon as possible and taking a hot bath; by wearing sufficient clothing in cold weather and by not changing it for a lighter weight until the weather becomes settled in the spring.

In order to break up a cold it is well to take a hot bath at night and to get into bed immediately. In order to cause free perspiration an extra blanket should be put on the

bed and a large glass of hot lemonade drunk after getting into bed. Castor oil or a Seidlitz powder should be taken, just as in fever; and, as in fever, the food should be very light and simple; *i.e.*, milk and milk toast. As long as fever is present the person sick with a cold should not be allowed to get out of bed.

Indigestion.—Indigestion is a much abused term commonly used to cover all forms of stomach trouble.

The causes are various:

Eating too often or between meals.

Consumption of too much food.

Too rich and highly seasoned food.

Constipation.

Fasting too long.

Worry and mental depression.

Remote organs may produce a reflex disturbance in the stomach. An extended study of the food and conditions surrounding the case is necessary. Therefore, intelligent coöperation with the physician who is trying to determine the cause is most essential. The removal of the cause is the logical treatment.

The taking of advertised “cures” for stomach troubles is dangerous and seldom corrects the real cause of the trouble.

Headaches.—The commonest cause of headache is indigestion. This may be cured by a dose of castor oil or a Seidlitz powder, and a diet of milk and milk toast only for a day or two. This plan of treatment is useful in all forms of headache; but it should not be forgotten that headaches may be due to much more serious conditions. They are often the first thing noticed at the beginning of an attack of pneumonia, scarlet fever, or typhoid. Therefore, if headaches do not yield to the simple measures mentioned above, and especially if fever

also exists, no undue delay should be permitted before a doctor is seen. Continued headache is not infrequently due to overuse of the eyes or to eye strain. Such conditions can be corrected only by doctors who are specialists on diseases of the eye.

Headache remedies sold as patent medicines often contain the most dangerous drugs, and should not be taken any more than other poisons.

Constipation.—Constipation is a common ailment most frequently found in people leading an indoor inactive life.

The importance of a daily evacuation of the bowels is too frequently overlooked.

The custom of correcting a constipation of two or three days' duration by the taking of a strong cathartic pill (the composition of which is not known by any one except the manufacturer) gives only temporary relief and should be condemned; if continued as a treatment it will only increase the tendency toward constipation and will not cure or prevent its serious effects upon the general health of the individual.

The *proper correction* of a sluggish or constipated bowel condition cannot be emphasized too much. Each case requires a study of its special needs, thus requiring an intelligent co-operation with the physician until the cause is discovered and corrected.

The simple remedies that may prove effective are regular habits, the proper regulation of the diet, and exercise.

Eating to excess fresh or salted, smoked, or canned meats, boiled milk or cocoa, too many eggs, berries and nuts. Cheese and the foods that contain a high percentage of starch with a relatively small proportion of cellulose, such as rice and macaroni, are all foods that tend toward constipation under such a condition.

Such *non-medicinal* remedies as paraffin oil and the

drinking of a large quantity of cool (not cold) water (three or four glasses) a half hour before breakfast prove effective remedies in many cases.

Exercise and *massage* of the abdomen are beneficial for those who can find the time to use such means; the method used should be directed by the physician.

A state of constipation exists when the movement is not free enough to empty the lower bowel each day.

Movement by enema only removes the feces from the lower bowel; it does not tend to cure a state of constipation.

Small hard round lumps in the movements indicate a sluggishness of the bowels which sometimes results in a slight diarrhea, the cause of which, however, is a state of constipation.

If the simple remedies fail the taking of a mild non-irritating laxative should be resorted to.

Cascara sagrada (see p. 24) tends toward curing constipation instead of increasing it. If a large dose is required it is more effective when divided into two parts, taking one part in the morning after breakfast and the other part after the evening meal instead of the one large dose at bedtime. The tablets can be easily bitten in half and the dose thus conveniently regulated.

Large doses of cathartics inflame the intestines; they should always be used with intelligence as to their composition and effect. This is particularly true of the *salines*; they are highly beneficial when indicated, but in their long continued use there is danger of inducing an intestinal catarrh.

The *common ailments* of indigestion, headache, bad dreams, irritability, bad breath, coated tongue, nausea, flatulency (gas), pain in the abdomen, cold feet and hemorrhoids may be caused by constipation.

For Demonstration.

Ironing a patient's back for lumbago.

Wrapping rheumatic joints.

Questions.

Discuss the importance of early care in an attack of appendicitis.

What are the important nursing points in a case of apoplexy?

What is anemia?

What is the nursing care of a case of Bright's disease?

What is the nursing care of a case of bronchitis?

Discuss the importance of early surgical treatment for cancer.

What does the passing of an abnormally large amount of urine indicate?

What should be done in a case of diarrhea?

What should be done in a case of dysentery?

How would you treat an epileptic convulsion?

Why is it important to follow the doctor's orders in a case of heart disease?

What is the nursing care?

What causes hives?

What is the nursing care of influenza?

What are the complications?

Where is the germ of lock jaw commonly found?

What is malaria and the cause of it?

What serious complication may follow an attack of tonsillitis?

Discuss the nursing care of rheumatism, and why sanitarium treatment is effective.

Why should faulty diet cause skin diseases?

CHAPTER XIX

COMMON AILMENTS AND NON-CONTAGIOUS DISEASES OF CHILDREN

Colic.—This is an ailment of young babies and disappears after the third or fourth month. It is caused by indigestion due to overfeeding, improper feeding or too frequent feeding. The bowel is distended with gas which causes severe pain. The baby cries sharply, alternately, drawing its legs up to the body, then kicking them away.

Warm water may be given if the baby will swallow it. The feet and legs should be kept warm. One of the best means of relief is to give an enema of a bulb full of water, using the small ear and ulcer soft rubber syringe. It is sometimes caused by cold; placing the baby in a warm bath for ten or fifteen minutes and wrapping it warmly afterward may cure an attack due to cold. Do not feed the baby while the attack lasts.

Constipation.—Persistence in the establishment of a regular bowel habit in the baby prevents much of this trouble. A nursing baby often responds to the treatment of the condition through the correction of the mother's diet or habits. Orange juice may be given an hour before feeding time once a day after the baby is six months old.

Constipation in a bottle-fed baby is more difficult to relieve. If after a reasonable correction of the milk formula (which should always be directed by the physician), it still persists, a small enema given by the soft rubber ear

and ulcer syringe is a far safer remedy than experimental changes in the food when the other conditions indicate a good digestion (see special modification, p. 222).

Massage of the abdomen may be tried under direction of the physician.

Indigestion.—The first signs of an indigestion are restlessness and acid, sour smelling bowel movements, which gradually turn green. Later there is griping pain and vomiting. Stop all milk at once and give barley water for food (see p. 237).

When the first indications appear a dose of one teaspoonful of castor oil should be given. It is the safest way to prevent a severe attack. By cutting down the strength of the food or giving barley water for a day or two following the castor oil, a serious attack may be prevented.

Croup.—Is due to a spasm of the vocal cords, excited by congestion of the mucous membrane of the larynx. The onset is very sudden.

For a hoarse, croupy cough, wrapping the baby up very warm and closing the windows is usually sufficient, but for a more severe attack, prop the patient up in the best breathing position, and apply hot fomentations to the throat. The temperature of the room must be kept even 70°F. and the air made moist by a kettle of boiling water. A canopy can be made by fastening the handle of an open umbrella to the top of the crib and draping a sheet over it, enclosing the crib, except one-third of the space at the head. This will allow enough fresh air and provide an opening for the steam pipe.

If heat and moist air do not give relief induce vomiting by giving ipecac (one teaspoonful every fifteen minutes until vomiting occurs) or warm salt and water.

A simple enema and hot bath may be resorted to, to prevent a second attack

If there is water hot enough in the tank to make steam the baby can be wrapped warmly and taken to the bath room or kitchen; by turning on the water the air is made moist enough to relax the spasm.

It is believed that children with enlarged tonsils and adenoids are more subject to croup than others.

Convulsions.—Are always a symptom of some disturbance and their cause may be a slight or a serious condition.

The first indications are twitching or convulsive movements and a physician should be sent for at once. Put cold cloths to the head and if a convulsion occurs put the child into a hot bath.

The mustard bath is usually given. Two tablespoonfuls of mustard (rubbed to a smooth paste in a little cold water) is added to a child's bathtub of water. The water should be about 102° and increased to 106° or 108° by carefully adding more hot water. An enema of warm, soapy water may be given.

Convulsions are due to a number of causes and the physician's advice should be both sought and followed.

Colds.—Babies that are kept out of doors a great deal, fed properly, and not too heavily dressed are less liable to colds than others. They should be kept in a well ventilated room with a temperature that does not vary greatly in the twenty-four hours.

For a cold in the head a couple of drops of abalone dropped in each nostril by means of a medicine dropper will relieve the stuffiness very much.

A laxative should be given and the bowels kept open. Food should be reduced if there is fever.

Japanese paper napkins are sanitary and good to use for handkerchiefs for children with bad colds.

If the cold is in the chest, rub with camphorated oil and place a warm flannel over it.

Persistent colds on the chest and bronchitis are symptoms of a more or less mild form of rickets. It is a condition frequently found in children or babies who have not been properly fed.

Scalding.—This is due to acid stools; the parts should be carefully bathed and zinc oxide ointment used freely.

Prickly Heat.—This is due to the heat in summer or to too heavy underclothing. If the rash appears in the winter it may be caused by too warm clothing. It makes the baby fretful and restless.

When caused by summer heat, the baby should be made as cool as possible; soap should never be used and a cool bath should be given frequently.

A starch, bran or soda bath will help to relieve the intense itching.

For soothing the irritation a powder made up of 1 ounce each of powdered starch and powdered oxide of zinc and 60 grains of boric acid; use this freely over the spots.

Eczema.—This is a persistent disease of the skin due to irritation of some sort, but more frequently caused by digestive troubles, due to overfeeding. It often appears in constipated children. Neither soap nor plain water should be used on the affected parts. Bran or starch water may be used if necessary for cleanliness.

The treatment must be directed by a physician; his help is very essential. It is very important that the child should have a free bowel movement every day. To allay the itching, smear the surface with an application of equal parts of lime water and sweet almond oil or with starch and boric acid powder. It is very important that the baby is not allowed to scratch the inflamed skin; to prevent its doing so, pasteboard splints should be lightly bound about its elbows so that it cannot bend them, but by this method it may still have the use of its hands.

Rickets.—Before modified milk was as firmly established as the best substitute for mother's milk, rickets was a common disease. It was spoken of by a famous authority on the subject as, "Without question the most common, the most important, and in its effects the most fatal of the diseases which exclusively affect children."

It is a chronic disease of nutrition. It is not to be regarded as exclusively a disease of the bones, but a very *complex disease* which affects the bones, muscle, ligaments and nearly every organ of the body, especially the nervous system.

Breast-fed babies seldom develop it early except where the mother's diet is poor and insufficient, or as the result of disease.

The disease commonly develops during the second and third year, but it is frequently seen as early as six months in babies that have been improperly fed. *Diet alone causes it and cures it.*

The essential cause is either faulty feeding or faulty assimilation, and bad hygienic surroundings influence it to some extent.

The *symptoms* are many and only a few of the most pronounced are generally recognized by the unskilled physician.

The early symptoms that indicate the condition are restless sleep, a perspiring head, weakness, tenderness of the flesh, delayed dentition and tendency to bronchitis, etc. The *later and more pronounced* symptoms of bow legs, etc., appear after the disease is well advanced.

Treatment.—*Plenty of fresh air and correction of faulty diet and healthful living conditions* will cure it.

The kind of diet that will cause it is, baby foods instead of modified milk during the first year, and starchy food and sweets instead of milk, eggs, meat broths, and fruit

juices during the period from weaning to two years of age.

This latter period is one of the most critical in the child's development; milk is one of the most essential parts of the diet.

Scurvy.—This condition is caused by feeding the baby on canned milks and omitting fruit juices from the diet.

It is a condition of malnutrition and is characterized by paleness, bleeding of the gums, great tenderness of the limbs that is often mistaken for rheumatism or neuritis, and consequently much fretfulness.

It is a very distressing disease for both mother and child.

It is easily cured and the treatment is simple. A *modified milk diet* must be given. *Orange juice* beginning with a teaspoonful three times a day and increasing to a tablespoonful three times a day is given to correct the condition. Later cod-liver oil and an iron tonic may be given if properly directed by a physician.

Other Conditions.—A child that changes from a happy, healthy child to a listless, fretful, drowsy child should be carefully observed by the mother. Conditions such as grinding the teeth when asleep; waking up with a scream; sensitiveness to light and noise; crying out when asleep—all are unnatural conditions and a physician should always be consulted.

Tonsils and Adenoids.—It is a blessing to the children of the age that this condition is now so generally recognized and corrected.

The condition is indicated by restless sleep, snoring or snuffling, mouth breathing, or more or less obstructed breathing.

Adenoids are an overgrowth of glandular tissue at the back of the nose and behind the palate. They obstruct the passages, although this is not always the case. They

cause more or less constant colds and frequently affect the ears through interfering with the passage from the middle ear into the throat. Through the obstruction in breathing, the air cannot reach the lungs properly; they are denied the proper amount of oxygen, the brain is poorly nourished and the child becomes dull. His expression is dull, the nose and face become more or less deformed; the arch of the jaw is affected and the teeth frequently protrude.



FIG. 41.—Face deformed by mouth breathing.



FIG. 42.—The same child after one year's treatment.

Tonsils can be readily seen and apparently have no special function to perform. When they are enlarged and become diseased they are a constant menace to health. A child is so seriously affected from bad tonsils and adenoids that no parent should allow it to be subjected to such a handicap.

The operation is a slight one and in the hands of a careful surgeon but slight risk is taken in removing them. The effect upon the child's health is only realized when the wonderful results are observed.

Prompt removal is the only treatment.

Tuberculosis.—Children are very susceptible to it and it is one of the common and fatal diseases of childhood. Prevention by protecting children from sources of infection is the safest and surest cure.

The tuberculous mother who reluctantly gives up the care of her children does them a great injury instead of caring for their welfare. She needs all her strength to care properly for herself. She should be consoled by the fact that children are easily made happy and usually they easily adapt themselves to new surroundings.

When exposed to tuberculosis a child should be watched carefully and treated as a suspect, until the danger may be considered as safely passed.

For such children fresh air, sunshine and good food are the important factors in prevention. The public agencies for the prevention and relief of patients suffering from the disease should always be appealed to for advice and aid by those who need it.

The most common forms of tuberculosis in children are:

Tubercular Glands of the Neck.—These should not be neglected as the disease may spread to other parts of the body.

When the glands break down the discharge is as highly infectious as the expectoration from a tuberculous lung and the same caution and sanitary care of hands, clothing and disposal of dressings is very important to prevent spreading the disease.

Removal of the glands which is entirely necessary may require more than one operation. Fresh air and nourishing food as for the treatment of any other tuberculous condition is a part of the treatment, and should be rigidly followed until the condition is entirely cured.

Tuberculosis of the Lungs.—The symptoms are the same as in adults. A prolonged cough after measles or whooping cough with a general debility and loss of weight should be placed under the observation of a physician.

Hip-joint disease is tuberculosis of the hip joint. The early stages are characterized by weakness of the hip and

a tendency to rest it. The child will stand on one foot or lean against a support. The pain is generally felt down the inside of the knee instead of in the hip. As the inflammation increases the child cries out suddenly in its sleep which is caused by a spasm of the muscles moving the inflamed surfaces of the joint together.



FIG. 43.—Cervical caries showing wry-neck position. (*Children's Hospital, Boston.*)

Hospital treatment should be promptly given. The relief from pain by the appliances used to cure the condition, the skillful care and the companionship of the other children makes these little sufferers happy and cheerful.

Pott's Disease.—This is a tubercular disease of the spine.

The attitudes assumed by the patient often indicate the part affected. When the cervical vertebræ or that part of the spine extending from the head to the shoulders

is affected, the most common attitude is that of wry neck; the patient will also (when fatigued) help support the weight of the head by grasping the head with the hands (Fig. 43).

When the dorsal or chest and lumbar or hip portions of the spine are affected the patient will assume the attitudes



FIG. 44.

of resting the hands upon the hips; or when sitting he will relieve the pressure on the diseased parts by putting his hands on each side of the chair when sitting (Fig. 43).

This illustrates the value of the plaster cast treatment which is intended to support the weight of the body, and by this means relieving the diseased vertebræ of the weight

they normally support, thus allowing them to remain at rest which is so important in the treatment of tuberculous conditions.

The other most common and characteristic symptoms are—when requested to pick up a coin from the floor, instead of bending the body forward as a normal individual



FIG. 45.

would do, the child holds the spine rigid, flexes the knees and lowers the whole body in a squatting manner (Fig. 44).

He regains the upright position by using the arms as a brace against the legs; while holding the spine rigid he literally climbs up the legs with the hands into the upright position (Fig. 45).

The earliest symptoms are indicated by the patients crying bitterly when a sudden jar on the spine produces pain. A sudden jar on the head, jumping from a chair or step or picking the child up from its bed may cause a sudden bitter cry that is often mistaken for the cry of



FIG. 46.—The same condition as in Fig. 45 in a more advanced stage.

temper by the mother who, as is natural, knows nothing of the early symptoms of the disease.

When the symptoms are pronounced enough to be recognized, immediate treatment by plaster casts should be commenced. Such treatment produces a perfect cure and will prevent the "haunch back" deformity which will result if neglected.

When institutional care for children is necessary, every mother should

know that they adapt themselves very quickly to it. They very soon become contented, and quickly recognize the skillful care of the kind nurses who very quickly gain their confidence. They enjoy the visits of the doctors and the companionship of the other children. The children's ward is seldom a gloomy place.

Lice.—Well-cared-for children may become infected with vermin through contact with others in crowds, schools or street cars. When persistent itching or scratching of the head is noticed, it is wise to make an examination.

Treatment.—Saturate the hair with equal parts of kerosene and olive oil; wrap in a towel and leave it thus over night. In the morning wash with hot vinegar, followed by soap and water. If necessary, repeat two or three times. The tincture of larkspur used in the same way is also effective, and may be preferred.

Such important subjects as sex-hygiene, masturbation, and vulvovaginitis, should be arranged in a special lecture course and presented by competent authorities on the subjects. The Children's Bureau, Washington, D. C., provides valuable advice and information on these subjects for those who cannot take a course of instruction.

For Demonstration.

An improvised croup tent.

Review Questions.

- What are the symptoms of colic?
- What are the symptoms of an indigestion?
- What is croup and how is it relieved?
- What causes a convulsion and how is it treated?
- What causes scalding of the buttock?
- How can prickly heat be prevented?
- What is the usual cause of eczema?
- Discuss rickets, its cause and cure.
- What causes scurvy?
- What effect have adenoids on the child's health?
- What is the only cure for bad tonsils and adenoids?
- Discuss the protection of tuberculosis in children.
- What are the most common forms of it?
- What are the early symptoms of hip-joint disease?
- What are the early symptoms of Pott's disease?
- How would you treat a case of head lice?

CHAPTER XX

THE NERVOUS PATIENT AND MENTAL HYGIENE

That "he is a very nervous man" or "she is a nervous woman" is frequently accepted as a very satisfactory explanation by the lay mind of a condition that is one of Nature's danger signals and should receive intelligent observation.

Nervousness is a symptom of a multitude of different conditions. As a disease it can develop into a chronic condition. In its worst forms it is very difficult to treat.

The mind has such a powerful influence over the body that worry can deplete every function. If the cause is not removed it will inevitably produce constitutional disturbances. With the general nerve exhaustion, loss of appetite, constipation, and general debility, there may develop a variety of mental and physical conditions that require change of scene and special treatment by specially trained nurses, doctors, and institutions for such cases.

Mild forms of nerve exhaustion exist everywhere in everyday life. There is not only the nerve and body weariness but also a mental weariness or mind hunger for something new. Such cases in their more pronounced form are recognized as being caused by weariness from everyday toil, monotony of living conditions, mental limitations resulting from not being able to extend interest beyond self, etc. Such patients are cured by a complete change of occupation, change of scene, a new idea, religious emotion, or perhaps a hobby of some sort.

The mental and physical improvement shown by the

mind's new occupation, is frequently used to demonstrate and prove the value of a new "cure" or of some form of quackery.

This *mental readjustment*, however, should never be carried to the other extreme of ignoring symptoms which may be indicative of a real cause for a nervous or mental depression. In such cases grave harm is done when it is assumed that because the mind can rise above the mental lethargy into which it had fallen, the body will likewise overcome a form of disease which Nature is frequently not able to do unassisted, great as we know her recuperative powers to be. Many acute diseases have become incurable through this error of judgment.

Mental occupation and happiness is a wonderful tonic, but an organic disease requires a very different method.

Nervous Prostration.—Prostration is a common form of a condition resulting from the lack of strength of the nervous system which is frequently caused by overwork, combined with worry. It is a pitiful condition whether caused by work, worry or disease. It affects every organ in the body. It may be obstinate or respond readily to treatment. Pleasure, rest, change of scene, nourishing food, all will help to build up the strength of the body which will likewise strengthen the mind and will-power to overcome the worry. Shattered nerves are slower to heal than shattered bones, and gentle care and great patience should be the rule of those who are attending such cases. Because they do not have a rise of temperature and run a definite course of disease, the seriousness of such cases is frequently overlooked.

Treatment.—Whether the nervousness is the result of some other cause, disease, or due to overwork or worry, the treatment should always be *the removal of the cause*.

To discover the cause frequently requires the finest skill in diagnosis.

The *removal* of the cause is not always an easy matter.

If there is *indigestion*, a study of the foods that cause indigestion should be made and their use discontinued. Lack of proper absorption and assimilation should be corrected by nourishing and easily digested foods, rest after meals, and a large hot pack applied to the abdomen, for thirty minutes after each meal.

A *warm bath* or an alcohol rub and a glass of hot milk at bedtime will often overcome sleeplessness.

Regularity of the bowels is very important; constipation should be relieved by a mild laxative.

Freedom from worry or excitement and rest in bed with massage is the usual order of the physician. As the case improves, mild exercise in the fresh air and change of scene completes the cure.

Such cases require the same coöperation between patient and doctor that is required in a case of heart disease if results are to be obtained. The physician can direct but the patient must "carry on" if the battle is to be won.

Every one who works with either mind or body should never neglect the *annual vacation*, no matter what the objection to the cost may be. It is an expenditure that pays compound interest and is essential to health. See Chapter "Care of Health."

Hysteria.—Certain kinds of nervous cases suffer keenly from imaginary ills. Such cases can so affect the organs of the body that symptoms of disease actually appear. For example: They can excite themselves into producing a palpitation of the heart similar to the same condition found in some forms of heart disease. Examination, however, proves that no heart disease exists.

The digestive organs can be so affected by unwillingness

to take food or exercise, that scanty urine may indicate a kidney trouble. Examination of the kidneys may prove there is no disease there.

They may feign paralysis of the arms or legs. Examination of the nerve centers show that the reflexes are responsive and that the nerves are alive and well.

Many cases are known where inability to walk or see has resulted from the abnormal state of the mind. That such conditions are cured by *mental impression* proves that they *exist only as a mental impression*.

Patients who have insisted for years that they were unable to walk have run from a burning house as fast as the other members of the household. A boy who persistently feigned blindness was entirely cured by a pretended operation, and a promise that it would be a sure cure.

Such cases of hysteria require institutional treatment. They may be cured, but are often obstinate and difficult to treat.

MENTAL HYGIENE

U. S. GOV. BULLETIN

“Improvement in mental health depends upon a knowledge of the causes which produce mental disease and mental defect, and the application of means which will bring about in whole or part the eradication of these conditions of ill health.

“Civilization and advancement in every field of knowledge have been due entirely to the inherent function and development of that predominant part of man which is known as *mind*.

“Hygiene in all of its ramifications has been evolved by the observations of the human mind, and whenever successes in preventive medicine have been accomplished it has been because the laws of prevention and eradication

of disease have been implicitly obeyed by that same supreme organ.

“In order that there shall be a steady improvement in the general physical health, the mind must be in a condition to take in the facts concerning the causation and prevention of disease and to successfully put into practice what it has absorbed. Only a healthy mind can do this. Therefore we must first consider the causes of unhealthy mental states and how such states can be prevented or cured. We must study the operations of the normal mind to some extent and learn to prevent its deviation from the normal before we can consider other topics of general hygiene.

“In order to be hygienic one must be mentally hygienic; that is, one must think well, feel well, and practise well that which he has learned. Briefly, mental hygiene is the basis or the very foundation of all hygiene.

“*Mental and physical ill health of the parents* at the time of conception, mental and physical disease of the mother during the nine months of gestation, injuries to the child in utero or at birth, *injuries* and *infectious diseases*, especially scarlet fever, meningitis, influenza, and convulsions, during early childhood, all play a part in producing a deleterious effect upon the nervous system in which the mind frequently suffers. These conditions of arrested mental development which have existed from uterine life or from early childhood are designated by the names of idiocy, imbecility, and feeble-mindedness.

“During the growth of the child *environmental conditions* play a part sometimes large, sometimes small, in the production of mental disorders. The quantity or quality of work, rest, sickness, exercise, food, privation, recreation, schooling, responsibilities, habits, home life, advice, example, all are either helpers or deterrents to mental

breakdowns. At times these agencies may be predisposing causes. They form a soil or prepare the individual for a mental breakdown, which may occur at a later time in the advent of an exciting agent.

"In other instances these environmental conditions may become the exciting causes and precipitate an attack of mental disease. This is especially true when the soil is prepared by heredity; that is, when the parents or grandparents have suffered with nervous or mental disease. Again environmental conditions may be so grave that they will not only prepare the way for a mental upset but they will actually precipitate it. This is the case in many of the newly arrived immigrants, who would never have had a mental breakdown had they remained at home.

"Every individual has in the course of his life many trials and tribulations. He is the possessor of uncomfortable feelings, secret thoughts, ardent desires, and internal mental conflicts. From time to time the average normal individual brings these affairs into clear consciousness and disposes of them. Worries and anxieties are brought from the dark corners of the mind, are carefully considered, and then placed where they belong, a certain amount of weight or importance being given to each annoyance. Other means of getting the better of one's troubles is to forget them, to banish them to the land of nothingness. Interest in others and in other things lessens the importance of any trial or conflict, no matter how serious these may seem at first. Some use the healthy means of unburdening themselves—they tell a sympathetic listener their troubles and in this way their sorrow drops into comparative insignificance, and they emerge victoriously from the combat.

"The mental unfortunate, however, is often unable to

throw off his troubles. His secret desires or thoughts get the better of him; he is unable to put them aside; in many cases he does not know how to put them aside. His faculty to balance and equalize mental events is not sufficiently powerful, and finally, perhaps, after a long warfare, his ideas and secret longings burst forth in the shape of false beliefs (delusions) or he imagines that he hears voices or that he sees strange things (hallucinations). Thus he becomes insane.

“One who has formed the bad mental habit of looking for slights from others, who is constantly looking for offense where there is none, later may, in the absence of balancing factors, become the victim of persecutory delusions—that is, he imagines that he is persecuted by others. Those with increasingly ardent desires which have been unchecked, and which have not been properly analyzed by their possessors, may come to the surface at a later time in the form of false beliefs.

“Again, a very active individual, who is capable of doing a large amount of work, may not know, from faulty thinking, when his danger line of hard work has been reached. He does not know his real strength; he overdoes himself and brings on a mental breakdown.

“It is thus seen that bad habits of thinking pass insensibly into actual mental disease. Suspiciousness, sensitiveness, seclusiveness, brooding, anxiety, fear, fretting, overwork, overexcitement, despondency, etc., if unchecked or uninterfered with, may run riot and bring their possessor to mental wreckage.

“In the education of the child, the lack of practical training, the attempting to do things beyond its capabilities, idleness, day-dreaming, etc., are apt to encourage unhygienic mental habits which may pave the way for serious mental trouble in adult life. In later life mental

breakdowns may be hastened by one attempting a task beyond his mental capacity. Hence wrong habits of feeling, thinking, and living are active causes in the production of unhappy mental states as well as of certain insanities.

"Parents and guardians should become informed regarding the principles of mental hygiene and especially of sex hygiene, so that they can impart information to their children on the subjects of venereal disease, reproduction, and marriage. Such knowledge will combat, and in time replace, the perverted and mysterious ideas which many children now entertain in regard to sexual affairs."

Review Questions.

How does mental taxation affect the body?

State some of the effects of monotony and overwork.

What are the usual effects of change of occupation and scene?

Is mental occupation ever the cause of overlooking real causes of physical disorders or disease?

What is nervous prostration and how does it affect the body?

Why does the physician order rest and a change of scene?

How does the physical condition improve the mental condition?

How does the mental condition improve the physical condition?

Do alarming symptoms of disease frequently appear in cases of nervous and hysterical patients?

Why is mental hygiene the basis of all hygiene?

What are some of the causes of idiocy and feeble-mindedness?

How should we meet our trials and tribulations?

CHAPTER XXI

CARE OF THE AGED

It should be the object as well as the duty of every son and daughter of mature years to make an aged parent both happy and contented. This means comfort as they want it in their own way—a certain freedom and independence in being allowed to have and do things as they like.

Every child should be taught to respect the gray hairs and tottering footsteps of age.

Whenever possible old people should be cared for in their own home where they can still feel the dignity of authority instead of being made a dependent. When this is impossible, observance of the simple demands of comfort and entertainment should be cheerfully provided. Old people like a sympathetic interest but never pity. The son that never neglects to spend a few moments in his mother's room to bid her a cheery good morning or good night adds many golden moments to her life. Old age means a slow mental comprehension, often easy to take offense and equally easy to please. The smallest attention is appreciated.

The peculiar habit of hoarding up old and useless things and a penurious tendency to deny themselves necessary comforts, are undoubtedly trying conditions for the more progressive younger generation. It is a wise son or daughter who will cheerfully ignore such things and by tactful management arrange the difficulty without giving offense.

Old people require more heat than others. Their personal care when helpless should always be given with the most gentle kindness and cheerfulness. Their clothing should be kept in order. They should be assisted with their baths, and the change of clothing regulated. Nearly all old people dislike fresh air but as it is important, they should be taken to "visit" in another room while their own room is made fresh with a good morning airing.

Comfortable glasses should be fitted to their eyes, tastes in literature provided for, and interest in outside affairs stimulated.

They frequently suffer from neglected corns and ailments of the feet; attention to and interest in such personal discomforts are much appreciated.

Their general physical strength is much impaired and their diet and bowels require special attention; it is one of the most important things to observe in their care.

It is well to humor them when they are difficult to manage, for objecting to their way of doing things seldom proves convincing. The most successful policy to follow is to imagine one's self in their place and remember that in good time age will claim us all.

Review Questions.

Discuss some of the peculiarities of old age.

Give some of the care necessary for their welfare.

Why should special attention be given to the needs of a laxative?

PART III

CHAPTER XXII.

INFANT CARE AND FEEDING

Introduction.—It is a singular fact that in woman's economic advancement, wise provision for her general education has been made in all directions except in the most important function she has to perform.

In the very important rôle of home-maker, a girl goes forth into life with no other preparation for home-keeping and motherhood than the accidental custom of her home and environment.

The technical knowledge required for the proper rearing of the young has passed far beyond the experimental stage. Therefore young women should no longer be left in ignorance, or allowed to depend upon mere chance.

The daily problems met by the social worker, invariably lead to the home where ignorance is already claiming its heavy toll. Would it not be a more sensible and practical custom to teach the girl how to meet the problems of motherhood before she becomes a mother, than to try afterward to correct the mistakes of her ignorance and inexperience?

The lack of technical knowledge in the care of infants, and infant feeding is not by any means confined to the ignorant or poorer classes. The child of a wealthy woman is almost as unsafe in the hands of an ignorant nurse girl as it would be in the home from which the nurse girl may have come.

Therefore, the study of the proper rearing of the race should begin with the women who are responsible for the care of the helpless babe. No matter who she may be she should be trained for her work.

That the value of practical efficiency on the part of the mothers of the race has not been recognized by some legally organized system to enforce it, is perhaps due to our ideas of *personal freedom*. In many cases such ideas are responsible for the human scrap heap of deficient who through life struggle against the fearful handicap of defective development.

The elimination of this fundamental cause of human incapacity requires neither a large expenditure of time or money; but it does require a full sense of responsibility on the part of the womanhood of our Nation, and, a willingness to recognize that, as citizens, this is their first duty to their country.

By this it is not meant that women should confine their duties exclusively to the home. Community problems vitally affect the home, and woman's counsel is needed to help solve them. However, there cannot be a moral or material gain in the value of their citizenship until they have made practical efficiency in the home their first duty.

The women of the present and the future could devise a no more lasting and loving memorial for those who fought and died to preserve out national liberty than, by firm resolve and concerted action to develop a standard of home efficiency as will make them worthy of the saying,—“The hand that rocks the cradle rules the world.”

Obstetrics.—Much thought has been given to the advisability of including a chapter on obstetrics in this book which is written expressly for an advanced course of in-

struction in the Public Schools. It is the conclusion of the writer that this subject cannot appropriately be included in the course except in the sense of meeting an emergency. From that standpoint it should be taught orally, and those who wish to specialize on the subject in a full course can easily do so. Such students will require a book that will go more deeply into the subject than would be possible here, even if a general outline were given.

The details of technique that it may seem wise to present on this subject should be left to the discretion and judgment of the nurse who is acting in the capacity of instructor. *Oral instruction* and *demonstration* can accomplish all that is necessary for the intelligent understanding of the subject which when taught as an emergency should be arranged under the three classes divided as follows:

First.—When necessary to assist the physician.

Second.—When necessary to act alone.

Third.—Such cases of emergency as a birth on a railroad train and in time of disaster.

Every young woman should realize that at some time in her life she may be called upon to assist the physician, or perhaps give assistance alone in an emergency. With a little practical knowledge she may not only be able to guard the welfare of a helpless mother and babe at a critical time, but if ever so unfortunately placed, she may be able to direct her own welfare in a similar emergency.

Therefore, every young woman may well pause for a moment's serious consideration of this point of view.

From time immemorial, the lying-in period has been definitely arranged for by engaging a woman with some practical experience to nurse the expectant mother.

That many women survive under conditions of neglect and ignorance does not change the fact that many a valuable life has been lost through lack of proper nursing care.

If given the choice between an inexperienced nurse who will do exactly as she is told, and the old fashioned practical nurse who has had many of her own (and lost some), the present day physician will unhesitatingly choose the former.

Nature has made some very wise provisions for protecting her own handiwork. The modern method is that of intelligently understanding her methods and protecting them. Therefore, the inexperienced woman can be assured that if she will follow the directions given her faithfully and accurately, she can give very valuable assistance where perhaps the saving of a mother's life is at stake.

The decision to omit this valuable topic was made with the intention of advising expectant mothers to use instead, the valuable bulletin prepared under the direction of the Federal Government. It is obtainable for every woman who will write the U. S. Department of Labor, Care of Childrens' Bureau, Washington, D. C. Ask for, "Prenatal Care," Care of Children, Series No. 1.

Only such topics as are relative to the nursing of the new-born infant will be given in this work.

THE NEW-BORN INFANT

When the new-born infant is placed in the care of the inexperienced nurse, she should see that its bed has been previously made warm by a hot water bottle or brick. The infant is wrapped in a clean soft wool or outing flannel blanket, then wrapped in another warm blanket and laid on its right side with a small opening above its

face for admitting fresh air. The hot water bag should then be laid against the blankets instead of on them because of the weight.

After the mother is made comfortable the doctor will direct the proper attention necessary for the eyes. Then the nurse should thoroughly oil the baby with sterilized olive oil, white vaseline, or unsalted lard in order to dissolve the protective substance that covers the skin. She should wrap the navel cord in a piece of absorbent cotton and make sure that it is not bleeding. She should observe if the baby is breathing properly; if its color is good and if it is warm and properly covered and lying on its right side. It should then be allowed to rest and get accustomed to living in a new environment.

After it has slept at least four or five hours it should be bathed and dressed.

The Bath.—The room should be warm and free from draughts. A large wash bowl for the water is usually used. A safe test is a temperature that feels neither hot nor cold but just comfortable to the elbow. A soft piece of old linen should be used as a wash cloth. Using a little castile soap, the head and body should be carefully washed, paying attention to the creases in the skin. Avoid using soap on the face for fear of getting it in the eyes. Dry the skin by patting; powder carefully.

Dress the navel cord by cutting a hole through a piece of sterile gauze and drawing the cord through it; turn the cord to the left side and place a pad of cotton over it; then put on the binder. It should not be put on tight enough to prevent the gas moving about in the intestines.

If the string by which the cord is tied should slip loose, severe hemorrhage at once results. In such an event do not waste a moment in grasping the end of the cord be-

tween the thumb and finger and pinching it tight enough to prevent bleeding. Hold it thus until another person can properly retie the cord.

After the baby has been bathed, dressed, and nursed, it should again be laid on its right side (to aid the proper heart action) for the next twenty-four hours. After that, it can alternately be placed on its right or left side or back, but it should be turned occasionally, which can be done carefully without waking. They, like adults, get tired lying helplessly in one position and frequently cry from no other cause.

The frequency of urine and bowel movements or the possible event of not any urine being passed, must now be noted and in the event of the latter, it must within a reasonable length of time be reported to the doctor.

The Clothing.—It is becoming the custom to use either silk, linen mesh, or soft cotton shirts; they are more satisfactory on account of not shrinking when boiled and laundered. Diapers should be of the soft diaper material made soft by previous boiling. A piece of old soft linen used inside for the first few days is a usual custom.

To *protect the clothing and bed*, a quilted pad or folded diaper is placed under the baby.

The *skirts* should be of outing flannel in summer and wool in winter; they should be hung from the shoulders instead of the old-fashioned band. They may be made by the Gertrude or princess models but for summer use in hot climates they should be made with a muslin top.

The *slips* should be made of soft material or of the white outing flannel. Care must be taken to prevent anything that will scratch or irritate the skin about the neck.

Both slips and petticoats should be made about 32 inches long and in dressing the baby draw the garments on over the feet instead of over the head. Wrappers

are convenient and warm and are frequently used instead of slips for the first few weeks.

Nursing the Baby.—The most discouraging period for the young mother is the trying experience of nursing a young infant during the first two or three days. Even when conditions are entirely normal, the care of a newborn infant is a difficult task. During the second day and night frequently a baby will cry almost constantly of hunger. If allowed it will nurse until exhausted and cry very soon after it is removed.

Some physicians allow a couple of feedings during this period prepared as follows: 1 teaspoonful of cream, 10 teaspoonfuls of boiled water. This will satisfy hunger and will prevent the infant from exhausting itself by constant fretting. However, the physician should always be consulted before such a feeding is given.

Normal conditions rapidly adjust themselves, and no attempt will be made to rehearse the usual conditions met with.

How to meet the complications that may arise is of greater concern to the young mother.

When nursing the baby the mother's arm should be raised on a line even with the shoulder and the infant laid on the bed beside her with its head slightly elevated by a small pillow.

The baby should be able to grasp the nipple squarely; his head should not be held too low as the milk may flow back in his throat, causing him to choke; his head must also be in a position to allow free breathing; the breast must not cover the nostrils; it can be held away from them by the fingers of the free hand.

The Nipples.—Prenatal care of the nipples is important and never should be neglected. It is the doctor's duty to advise their care.

After each nursing they should be washed with boric acid solution or clean water, dried thoroughly and kept as clean and dry as possible.

The following complications may occur. Through the baby's effort to nurse, the nipples may become sore. They may be prevented from cracking by applying lanolin at night and keeping them clean and dry.

The Cracked Nipple.—This may occur through allowing the baby to nurse too long and too frequently. When it does occur, however, the nipples should be washed with boracic solution or boiled water both before and after each nursing and kept thoroughly dry and clean. A glass or rubber nipple shield should be used which should be sterilized before using. It will increase the baby's effort to nurse but it will protect the mother. Until the crack is healed there is danger of infecting the breast, which may result in an abscess that will require surgical treatment.

The Inverted Nipple.—This must be drawn out by the use of the breast pump or by heating a bottle with a neck at least 1 inch in diameter with hot water; empty the water and place the opening of the bottle over the nipple. The heat will cause a suction, thus drawing the nipple into the neck of the bottle. Care must be taken not to apply it while too hot for a scald may result, which would be a painful complication.

The Breast Pump.—This should be sterilized before using by standing it in boiling water almost up to the bulb. When using it hold it so as to prevent the milk from running into the bulb. The breast pump is used in cases of cracked nipple and for relieving engorged breasts.

Engorged Breasts.—During the first few days after the flow of milk has started the breasts may become engorged;

to relieve the discomfort the milk may be drawn out by the breast pump.

When lumps appear in the breast, the condition should be reported to the physician. Hot applications applied to the breast to soften it, then gentle massage by stroking toward the nipple, and the use of the breast pump is the usual treatment. A compress of pure glycerine over the lump will often prove effective. Hot applications and the use of the breast pump to start the flow of milk is a good plan in cases where it is difficult to start the baby to nurse.

Infected Eyes.—If the eyelids should become red and swollen immediate attention should be given to them. The doctor's attention should be called to the condition at once.

When a thin yellowish discharge appears with the redness, the child's eyesight may be lost or greatly impaired unless it receives treatment within the first twenty-four hours. There must be no delay in starting the treatment at once. The discharge accumulates very rapidly. It is highly contagious and if but one eye is infected protect the other by binding a clean sterile pad over it. The doctor will direct the treatment, and the nurse will be compelled to give up her entire time to it.

The important part of the treatment is to keep the eyes free from the discharge. Until the doctor arrives (which may be hours after he has been notified) the nurse should not delay the irrigation a moment. Hold the lids open and irrigate the eye with warm boric solution. Turn the head outward and from a pledget of cotton, wet with the solution, irrigate a stream of water into the inside of the eye next to the nose letting it run to the other side where it can be absorbed by a piece of dry cotton. •This should be done every ten or fifteen minutes, night

and day. Use every precaution not to let any of the infection escape.

The nurse must be relieved for sleep. Those attending the case should never touch their face or eyes carelessly with their hands without disinfecting them first.

An Infant's Cry.—The significance of an infant's cry is of great importance to the mother. She should begin early to learn the only language the baby knows by which to make its wants or troubles known. The intelligent study of the different kinds of cry will go farther toward preventing unnecessary suffering for the infant and unnecessary worry and anxiety for the mother, than any set of rules she could be given. It would guide her in many an anxious moment and might avert useless anxiety over an imaginary condition.

The *cry of hunger* is apt to be interrupted with vigorous sucking of the hands. It is a worrying, fretful cry, not loud or sharp and piercing as the cry of pain is apt to be. It stops as soon as the baby is fed.

The *cry of indigestion* will stop for a short time after being fed and soon begins again.

The *cry of pain* depends very much upon the severity of the pain. When very acute it continues until the child is exhausted; it falls asleep only to awaken again with a scream. When the pain is less severe there is apt to be a moaning, restless, fretful cry.

Children will cry from general discomfort such as cold, cramped position, wet diaper, or because they are tired and sleepy. The delicate child cries from all causes more than the strong one.

The *cry of weakness or exhaustion* is a low, weak whine or moan which is almost constant when awake.

The *cry of temper* is a loud, violent and often prolonged one. The child throws the head back and kicks and struggles. It stops as soon as it gets what it wants.

Older babies may cry from temper, to be taken up, etc., but young babies have not learned these things. There may be no apparent reason to the nurse why the baby should cry, but an effort should be made to discover it. The cry is a signal of discomfort or distress, and it is the nurse's business to find the trouble and remedy it. It need not always be taken up when it cries, but it should not be allowed to cry for any length of time without attention. Observe if any discomfort from clothing, pins or wet diaper is the cause; if the baby is too warm or if its feet are cold.

The baby may be thirsty and a drink of warm water may satisfy it. Often turning it over will be all that is necessary to stop its crying.

Two and Three Hour Nursing Schedules.—After the baby has been bathed and dressed it is put to the breast. This is important, because it needs the fluid the breast contains which acts as a laxative in clearing the bowels of the dark tarry substance which they contain at birth. It is of equal importance that he should learn to draw his food from the breast, before it fills with milk. An infant that is not put to the breast *during the first two days seldom learns to feed from the breast at all.* It is also of equal importance that the breast is stimulated in this way to insure a more certain flow of milk.

Intervals of Feeding.—Until the breasts fill, every four hours is often enough for the baby to nurse. It will probably cry and fret during the second day and night, but Nature seems to have ordained that the watery fluid in the breast at this time is entirely sufficient. A little warm boiled water may be given between times, which will help considerably to satisfy the baby. It takes from one and a half to two hours for a baby's stomach to empty and considerably longer for the process to be completed in

the intestine. Babies should never be allowed to nurse too rapidly; Nature's protest is shown by throwing the milk up or its causing indigestion. The breast should be withdrawn several times if necessary to prevent nursing too fast.

When the bottle is used the hole in the nipple should be large enough to allow the milk to drop from it instead of flowing in a steady stream. It should not be too long, as a long nipple may cause vomiting.

It requires from fifteen to twenty minutes for a baby to nurse properly. The busy mother gains much by the periods of rest and relaxation while nursing the baby. The quantity and quality of her milk depends so much upon preventing fatigue or over-taxation, with their inevitable result of nervousness and irritability.

Whether a two-hour or a three-hour schedule is followed, *regularity to the minute* should be the rule. Babies cry from over-loaded stomachs and indigestion (due to nursing every time they fret) far more frequently than they ever cry from hunger when properly fed on a regular schedule.

Three-hour Schedule.—A three-hour schedule during the daytime with one feeding at night after 9 P.M. instead of a two-hour schedule, has some strong advocates. The argument for it seems to be a logical one, but the amount and quality of the mother's milk should decide which method is the best for each individual case. The observation of several reliable physicians whose opinion has been consulted shows the following facts:

First, in an equal number of cases the breasts fail to perform their function as well under a three-hour schedule as they do under a two-hour. This fact has been established through putting the mother on the two-hour schedule after the other has failed, with the result that the supply

of milk increased at once, through the extra stimulation the breast received by the demand for greater activity.

The same results were observed in the growth of the baby. Though hunger was apparently satisfied in the majority of cases, the infant failed to gain in weight or at least to make a satisfactory gain. By placing it on a two-hour schedule, a gain of a half pound a week was the immediate result.

A safe compromise probably could be made by careful observation of the individual cases. It seems logical that where a mother has an abundance of good, rich milk, and the baby makes a satisfactory gain in weight, the three-hour schedule is the most satisfactory method for that case; but the woman who has a normal or barely sufficient supply should remain under very close observation, or from the standpoint of safety take no chances on a possible decrease in quantity or quality with the corresponding lack of gain in weight of the baby. *Suction* seems to be absolutely necessary to assure a continued supply of milk.

A noticeable decrease in quality or quantity of the milk should be noted with alarm and every measure taken to correct the cause.

When the milk apparently disagrees with the baby, a study of the cause nearly always results in the satisfactory correction of it. The indications are shown by the lack of proper gain, hunger, or frequent crying. *Instead of giving up, study the cause.*

The weariness caused by the care of the baby, together with staying at home and growing nervous through lack of rest perhaps, has frequently caused a change in the mother's milk. Proper diet, sufficient rest and recreation may be all that is necessary. Even the smallest

amount of milk should be considered of great value to the baby and persistent effort should be made by regular nursing periods to retain it. After a struggle of weeks it is not infrequent that a sufficient supply has been established when it seemed almost hopeless.

Good, nourishing food, out-of-door life and relief from worry and fatigue (in all of which she should have the aid of her family) will do much toward aiding a nursing mother to maintain a sufficient supply to nurse her baby the required length of time.

Everyday Care of Baby. *Bathing.*—A sponge bath is given until the cord has come off and the navel perfectly healed. If a raw surface is left after the cord has dropped off, a little zinc ointment should be applied until it is healed.

After this a daily tub bath should be given. The most convenient time for this is between the 6 A.M. and the 9 o'clock feedings. Everything should be made ready for the bath before beginning. Use the elbow test for the temperature of the water; the room should not be too warm. The baby should have his own bath articles and the mildest soaps should be used. The head needs to be washed with it every day.

To Prevent Chafing.—Chafing is due to failure in keeping the folds of the skin, groin, and armpits clean and dry, or to rough uncomfortable clothing and the use of strong soap. Use mild soap and keep the skin dry with talcum powder. The genitals of both boy and girl babies must be carefully washed and always kept clean.

Do not keep the baby too warm; this can be regulated by observing if he perspires.

It is very important that a baby should be kept warm and a light covering kept over its head, but it should never be covered warmly enough to make it perspire. It weakens

it, makes it cry from discomfort and the moisture on the skin may cause chafing. The nurse should slip her hand under the undershirt occasionally to see if the back is moist before she takes the baby up. She can in this way soon determine how much covering is required.

The Care of the Mouth.—Babies are very apt to develop sore spots on the tongue or gums. The mouth should be washed twice a day with clean boiled water. The lining of the mouth is very delicate and the cleansing should be done with gentleness because the baby will try to suck the finger. Never use gauze; it is too rough. Wrap a bit of cotton around the little finger, seeing that the nail is well protected; wet it with the water and pass it gently over the tongue and roof of the mouth; with a fresh piece do the same to the gums.

Fresh Air.—The baby should always sleep in its own little bed in a well ventilated room, which should never be heated by a gas or oil stove. As soon as conditions permit, it should take its naps out of doors and remain in the fresh air as much as possible.

Sleep.—The new-born babe should sleep twenty-two out of the twenty-four hours. It should be wakened for nursing during the day, at least up to 8 or 9 P.M. After that if it does not waken during the night it should be allowed to sleep. Regular habits must be established through the first few weeks for they will set the pace for the following months. If it is allowed to sleep instead of eat during the day, it of course will be hungry during the night. Irregular sleeping habits will cause nervousness and indigestion, just as readily as irregular feeding periods.

During the first four or five months a forenoon and short afternoon nap is usual. After that time a morning nap of from two to three hours is the rule. The baby

should always be put to bed not later than 7 P.M. both for its own welfare and that of the mother.

After one year of age the daily afternoon nap should be continued as long as the child will take it—usually five years.

Protect the Eyes.—From birth the eyes are sensitive to light; they should always be shielded from the bright light of a lamp, or window and the sun. Nurse girls should be taught this when taking the baby out for its outing in the fresh air.

Bowels and Urine.—During the first few weeks, from one to four passages may be expected. Later one or two are usual. Regular movements are important and a baby should never be allowed to go over twenty-four hours without a movement. Every effort to establish regular habits and natural movements without assistance is of course desirable. But if this has to be done as a result of too many experimental changes in the milk formula, a small enema properly given can do far less harm.

Theoretically, the proper formula should produce a normal movement daily, but babies, like adults do not always behave according to rule, and it seems the wisest course to assist nature in the simplest way possible.

The baby bulb syringe with the small, hard rubber nozzle should never be used. Because of the possibility of injuring the rectum, many physicians do not advise the enema at all.

The soft rubber ear and ulcer syringe that only holds an ounce of water and has a soft rubber nozzle is the only thing that should be used for the regular enema to move the bowels. If the water is injected slowly so as not to distend the bowel the soft small nozzle when oiled cannot possibly do any injury; the regular habit of moving the bowels before the bath is given will aid materially when the

baby is old enough to be placed upon its chair which practice can be commenced as early as four months.

By placing an infant's chamber in the lap between the knees and at regular times, sitting or holding the baby (with its back to the nurse's chest) upon it, a very young infant can be taught to use it successfully.

Every mother can with regularity and a little patience teach a baby to tell or by some means indicate when it needs attention. If this is not accomplished by the end of nine months or a year, it is largely due to her own neglect.

Urine.—At birth the urine may be highly colored, but after a few days it should be colorless. If the urine continues highly colored the baby should be given plenty of water which will remedy the condition and cause it to disappear. Should the quantity of urine seem scanty and infrequent, the doctor's attention must be called to it. Urine is usually passed every two hours.



FIG. 47.—Ear and ulcer syringe.

For Demonstration.

Washing the eyes, wrapping in the blanket, and oiling the skin.

The first bath and dressing the cord.

Dressing the baby. Making and care of a baby's bed.

Review Questions.

How should the obstetric bed be prepared?

How should the blanket be wrapped about the baby?

Why should it be laid on its right side?

Why should it be allowed to sleep four or five hours before being bathed and dressed?

Why should an infant's cry be closely studied?

Why should a study of the two and the three-hour nursing periods be made?

What does the nursing mother require to remain in good health?

Discuss what the everyday care of a baby should consist of.

CHAPTER XXIII

INFANT CARE AND FEEDING (CONRINUED)

PROPER CARE OF MILK AND PREPARATION FOR ARTIFICIAL FEEDING

Experience has shown that fresh, pure milk is essential for success in modified milk as a substitute for mother's milk. The milk should come from tuberculin-tested herds that are well housed, fed, and properly milked. The milk should be handled by clean milkers and put into sterilized utensils. It must be bottled and cooled at the dairy and delivered to the consumer in sealed bottles.

Authorities recommend the herd milk of Holstein or ordinary grade cows for infant feeding, as such milk has a more nearly proper percentage of fats than that from Jersey or Guernsey cows.

Certified Milk.—This is fresh, clean, pure normal milk of uniform composition and highest quality, obtained from healthy cows and produced and handled under the supervision of a medical milk commission with special sanitary precautions. Wherever it is obtainable it should be used. The safety guaranteed more than repays the added cost.

Care of Milk.—It is important to keep milk cold; germs multiply with astonishing rapidity when the milk is allowed to stand for any length of time at a moderate temperature (see p. 4). When delivered it should be put at once in the ice box and never allowed to stand uncovered.

A Home-made Ice Box.—An ice box which will serve to keep the baby's feedings cold for twenty-four hours can be made at home for very small cost as follows: Procure a wooden box about 18 inches square and the same depth; put a layer of sawdust 3 inches thick in the bottom of the box; fill it with sawdust around a 10-quart tin pail or a section of 10-inch galvanized pipe which occupies the middle of the box. Inside this pail or pipe place another slightly smaller pail, which is to hold the ice and the bottles. This inner pail should be covered, and the outer box tightly closed by a wooden cover lined with several thicknesses of newspaper. The inner pail should be taken out each morning to be emptied and cleaned. This little device will keep milk cool with 5 cents' worth of ice for twenty-four hours or even longer. When feeding time comes, the box is opened, one bottle is taken out, and the box is quickly closed again.

When there is doubt about the purity of the milk, the only safe method to follow is pasteurization. During the summer months especially milk should be so prepared for infants. Green stools and a persistent mild diarrhea can nearly always be corrected by pasteurizing the milk.

Pasteurizing.—This process consists in heating the milk to 145°, holding it there for some time, and then cooling it rapidly to 50°. The use of one of the excellent pasteurizers and sterilizers in the market greatly simplifies this part of the work, but satisfactory results can be attained by the use of an ordinary pail or kettle. A convenient method for home pasteurizing is as follows:

Put a gallon (4 quarts) of water on the stove in a kettle. When the water is boiling hard, remove the kettle from the stove to a table and allow it to stand uncovered for ten minutes; then put the filled and loosely corked bottles into the water, cover the kettle, and allow it to stand

covered for half an hour. At the end of this time remove the bottles, cool rapidly under running water, and put in the ice box until needed. Do not uncork the bottle from the time it is first closed until the baby is to be fed.

The Nursing Bottle.—This should be an 8-ounce round bottle with sloping neck and bottom so that it can be cleaned perfectly by reaching every part of the inside with a bottle brush. New bottles should be annealed by putting them in a pan of cold water bringing to a boil, and allowing them to stand in the water until it is cold.

How to clean the bottles. As soon as emptied, they should be rinsed and filled with water until cleaned. Clean with hot water and borax and use a brush for reaching every part of the inside. Then rinse them thoroughly and put them into a kettle of water and boil fifteen minutes.

Nipples.—The conical nipple is the best. If the large top Hygiea bottle is used the nipple must be washed clean, scalded, and kept in boric solution between times and boiled once a day. Immediately after feeding remove the nipple and rinse with warm water.

Rule No. I.—Rub the outside with a little common salt to remove the milk; turn the nipple inside out, rinse and rub with salt; rinse again and boil for five minutes. It will dry at once when removed from the boiling water. Place in a covered jar that has been previously sterilized and keep from the light. Rinse with boiled water before using. After turning the nipples for cleaning, do not fail to turn them right side out again. When turned inside out the milk will flow very slowly and sometimes not at all. The hole in the nipple should be large enough to allow the milk to drop moderately fast from the bottle; it should never be large enough to allow it to flow in a stream. Extra nipples should always be

prepared and ready for use as boiling soon destroys the hardness of the rubber.

Rule No. II.—Another rule for the proper care of nipples, is to clean after use, boil each day and keep them in boracic acid water (a half teaspoonful to a cup of water). The hands should always be washed clean before handling them.

The nipples with the long rubber tube attached cannot be cleaned and should never be used; they are so dangerous to infant health that they should be prohibited by law.

For Demonstration.

Proper way to keep milk and the home-made ice box.

Pasteurizing.

The kind of nursing bottles and nipples to use and how to clean them.

Review Questions.

Under what conditions is pasteurization necessary?

How would you make a home-made ice box?

Give the process of pasteurizing milk.

What kind of a nursing bottle should be used and how should it be cleaned?

Give the two rules most commonly used for the care of the nipples.

CHAPTER XXIV

INFANT CARE AND FEEDING (CONTINUED)

MODIFIED MILK

An infant's stomach is one of the most delicate organisms the physician has to treat. When properly fed as it should be, on mother's milk, a baby will endure a great deal of other neglect without harm always resulting from it. This is the false argument one so frequently hears in favor of getting a baby "accustomed to" dirt and lack of proper care.

Those who may heed such argument must remember that only the exceptional child survives such lack of care and wrong conditions. The less hardy or frail ones show that twenty babies out of every hundred die in our large cities where conditions are unfavorable for their proper care.

All physicians agree that modified cow's milk is the best substitute for mother's milk. They frequently differ in regard to minor details, which is the cause of some confusion in the minds of mothers, but in the main issues they agree and the physician who is guided by Nature's methods as far as it is possible is entitled to the confidence of the public.

For example: If *starch* was a necessary ingredient for an infant's growth, Nature would have provided for it in the mother's milk.

A baby has no *teeth* for properly chewing its food before it is twelve or fifteen months old. That fact should be a

good argument for not giving solid food before that time.

Unsatisfactory progress is not always the fault of the physician. So few women have the proper sense of accuracy in following directions that the best physicians' efforts are often neutralized.

There is a very good reason for using cold, boiled water instead of hot, and the lack of the proper cleanliness of the milk and the method of preparing the food is frequently the cause of poor results. Lack of caution may not always make a child ill, but carelessness can very soon be detected by the evidence the results of it will show.

Modified Milk.—When commencing modified milk feeding, experience has taught physicians that the most important thing is to *prevent an indigestion*.

Using a formula that is weak enough to assure no risk in that respect is the only safe way to proceed. A weak mixture can always be made stronger when the growth of the infant requires it.

Experience has also taught that no definite rule applies to all babies.

The sturdiness of the infant and the strength of its digestion decides what is necessary for its needs. The strong, well-cared-for baby will require a much stronger mixture than a less hardy one or one that has had an attack of indigestion. Therefore, when a doctor observes that a too small or a too large proportion of fat, sugar, or protein (curd) is indicated, he regulates the formula accordingly.

Some infants show a marked intolerance to sugar; another to fat, and another will take a smaller or larger proportion of the curd or skim milk.

Each indication has to be understood in the exceptional

cases, but the average infant does very well under normal conditions of care and strength of food.

Experience has proven that both "*top milk*" and "*whole milk*" mixtures have produced perfect babies and that is what the physicians are striving for.

However, the tendency is now strongly toward a certified whole milk mixture, because there is less variation in the proportion of cream.

Milk sugar has the argument in its favor of its being Nature's method, but cane sugar and malt sugar, are used with success in many cases of healthy babies. Each preference is indicated under certain conditions and sometimes sugar is removed entirely in some forms of indigestion.

When "**whole milk**" is used mix the cream and milk by pouring the milk from the bottle into the pitcher, then back again into the bottle.

When "**top milk**" is used always pour the first 6 ounces from the top of the bottle and measure from this, the required number of ounces for the new-born infant, later adding as much more of the top milk as the formula requires. The fresh milk should stand three or four hours before the measurement is made.

How to Prepare the Feedings.—The milk bottle should always be rinsed off and dried with a clean towel. The hands should be washed clean and the pitcher, spoon and 8-ounce glass graduate should be boiled. Use cold boiled water. Measure the required number of ounces of water, and pour into the pitcher. Add the carefully measured number of ounces of top milk or whole milk. Add the sugar, which is always measured by the level spoonful, using a knife for the leveling. Mix well and measure each feeding, using as many nursing bottles as there are feedings in the twenty-four hours. Cork with sterilized absorbent cotton.

A bottle rack should be used for handling the bottles. They should never be laid on the side so that the food touches the cotton cork.

To *heat for feeding*, stand the bottle in a quart measure of hot water and heat to blood heat. Test against the inside of the arm or cheek.

The *two- or three-hour intervals of feeding periods*, are discussed on p. 201. The schedule is decided by the amount of food a baby is able to take, and properly digest. Its value can only be estimated by the results shown.

The three-hour schedule calls for a stronger mixture and a larger quantity of food given at each feeding, thus providing for the longer interval between. If the child thrives well on this schedule, obviously much extra work is saved.

There is no exception to the rule of making all changes gradually. When 1 ounce of milk is added do so by adding 1 or 2 teaspoonfuls at a time, thus requiring three or four days in making the change.

The following formulas have been used for years by successful physicians as a standard of proportion, for both "top milk" and "whole milk" mixtures.

It is a safe guide for the average baby that is neither very weak nor exceptionally strong, and does not apply to the feeding of the premature infant which should always be fed on mother's milk.

The strength of the mixture is increased both in quantity and quality as the conditions require. The formula should contain a sufficient number of ounces for an extra feeding to provide for a possible accident by spilling any of the food.

Top Milk Formula.—Beginning on the third day, for an every **two-hour schedule**, allowing 1 ounce to each feeding and ten feedings in the twenty-four hours.

First Week.

- 2 ounces of milk.
- 4 level teaspoonfuls of sugar of milk.
- $\frac{1}{2}$ ounce of lime water.
- 10 ounces of cold boiled water.
- Give 1 ounce at each feeding.

Second Week.

- 3 ounces milk.
- 4 level teaspoonfuls of sugar of milk.
- $\frac{1}{2}$ ounce lime water.
- 12 ounces water.
- Give $1\frac{1}{2}$ ounces at each feeding.

Third Week.

- 6 ounces of milk.
- 8 level teaspoonfuls sugar of milk.
- 1 ounce lime water.
- 22 ounces water.
- Give 2 to $2\frac{1}{2}$ ounces at each feeding.

Fourth to Eighth Weeks.

- 9 ounces milk.
- 8 level teaspoonfuls of sugar of milk.
- 1 ounce lime water.
- 23 ounces water.
- Gradually increase quantity at each feeding from 3 to 4 ounces at the end of seventh week. Change from two-hour intervals to three with one night feeding.

Ninth to Twelfth Week.

- 11 ounces milk.
- 8 level teaspoonfuls of sugar of milk.
- 1 ounce lime water.
- 21 ounces water.
- Give 3 to 4 ounces at each feeding every three hours and one night feeding.

Fourth Month.

- 13 ounces milk.
- 7 level teaspoonfuls sugar of milk.

1 ounce lime water.
19 ounces water.
Give 4 ounces at each feeding.

Fifth and Sixth Months.

15 ounces milk.
7 level teaspoonfuls sugar milk.
1 ounce lime water.
17 ounces water.
Give 6 to 7 ounces at each feeding. Omit the night feeding.

Seventh, Eighth and Ninth Months.

17 ounces milk.
6 level teaspoonfuls sugar of milk.
1 ounce lime water.
15 ounces water.
Give 7 to 8 ounces at each feeding.

Tenth to Eleventh Month.

21 ounces milk.
4 level teaspoonfuls sugar.
1 ounce lime water.
11 ounces water.

Thirteenth Month.

25 ounces milk.
3 teaspoonfuls sugar milk.
1 ounce lime water.
7 ounces water.

Whole milk formula with three-hour schedule.
Beginning on the third day:

First Week.

3 ounces milk.
10 ounces water (cold boiled).
 $\frac{1}{2}$ ounce lime water.
2 level teaspoonfuls sugar.
Give $1\frac{1}{2}$ ounces at each feeding, with one night feeding.

Second Week.

- 5 ounces milk.
- 10 ounces water.
- 1 ounce lime water.
- 1½ even tablespoonfuls sugar.
- Give 2 ounces at each feeding.

Third Week.

- 6 ounces milk.
- 11 ounces water.
- 1 ounce lime water.
- 1½ even tablespoonfuls sugar.
- Give 2½ ounces at each feeding.

Fourth Week.

- 7 ounces milk.
- 11 ounces water.
- 1 ounce lime water.
- 1½ even tablespoonfuls sugar.

Fourth to Eighth Week.—Increase 1 ounce of milk each week and ½ ounce water.

Eighth to Twelfth Week.

- 12 ounces milk.
- 13 ounces water.
- 1 ounce lime water.
- 2 tablespoonfuls sugar.
- Give 3 ounces at each feeding.

Third Month.

- 16 ounces milk.
- 16 ounces water.
- 2 ounces lime water.
- 3 level tablespoonfuls sugar.
- Omit the night feeding and increase to 4 ounces at each feeding.

Third to Sixth Month.—Increase at the rate of 1½ ounces milk each week. Use same amount of water and sugar. Increase gradually the quantity of each feeding until 6 ounces are taken at the end of the fifth month.

Sixth to Ninth Month.

24 ounces milk.

12 ounces water.

2 ounces lime water.

3 even tablespoonfuls sugar.

Give 6 to 8 ounces at each feeding.

Ninth to Twelfth Month.

30 ounces milk.

10 ounces water.

2 ounces lime water.

2 even tablespoonfuls sugar.

Give 8 ounces. Change to four-hour schedule.

Never increase either strength or quantity if there are any signs of indigestion.

Barley water is sometimes used to dilute the food (see p. 237).

Fruit juices are commenced soon after artificial feeding is commenced.

Goat's Milk.—When goat's milk is used in infant feeding it is modified just as cow's milk is, though of course, goat's milk may show the same variation in the percentage of fat as is found in cow's milk.

TWO-HOUR SCHEDULE FOR FEEDING HEALTHY INFANTS DURING FIRST YEAR

Age	Intervals (hours)	Number of feedings in 24 hours	Number of night feedings	Number of ounces at each feeding	Total number of ounces in 24 hours
1 week.....	2	10	1	1	10
2 weeks.....	2	10	1	1½	15
4 weeks.....	2	9	1	2½	22½
6 weeks.....	2½	8	1	3	24
8 weeks.....	2½	8	1	3½	28
3 months.....	2½	7	0	4	28
4 months.....	2½	7	0	4½	31½
5 months.....	3	6	0	5½	33
6 months.....	3	6	0	6	36

THREE-HOUR SCHEDULE

Age	Time between meals, day (hours)	Night meal, be- tween 10 P. M. to 7 A. M.	Number of meals in 24 hours	Quantity for each feeding (ounces)
Second to seventh day.....	3	I	7	1½-2½
Second and third weeks.....	3	I	7	2 -4
Fourth to ninth week.....	3	I	7	3 -4½
Tenth week to fifth month....	3	I	7	3½-5
Fifth to seventh month.....	3	o	6	4½-6½
Seventh to twelfth month....	4	o	5	6½-9

How to Give the Food from the Bottle.—The nursing bottle should always be held or so placed that the neck of the bottle is continually filled so that air is not sucked with the food. The baby should be able to grasp the nipple squarely; it should not be allowed to fall asleep while feeding; the food should not be taken too fast; the hole in the nipple should allow the milk to drop from it rapidly instead of flowing in a stream; if the child eats greedily, withdraw the nipple occasionally. Remove the bottle when finished and wash both nipple and bottle at once.

When changing from breast milk to modified milk commence with a formula that is intended for a three months' younger child and gradually increase to the proper strength by adding a little more milk each day.

An attack of indigestion in a very young baby is a serious and unfortunate illness as it weakens the digestion for the following three or four months.

In case of an attack of indigestion (see p. 168) stop all food at once. Give a teaspoonful of castor oil to remove the undigested food. Give barley water, albumin water, or thin meat broth until the attack has entirely subsided. An attack lasts from one to three or four days; until

the indigestion has entirely subsided milk acts almost like a poison.

The return to the formula must be made by starting with a very small proportion of milk (1-8 parts) and gradually increasing it until the proper strength is reached.

For the treatment of indigestion, boiling the milk as follows, is advised by some prominent physicians.

Put the required number of ounces of water in a sauce pan. When boiling violently, add the required number of ounces of whole milk; bring to a boil and boil for three minutes, stirring vigorously all the time.

No sugar is added when this preparation of the milk is used for an indigestion, but if it is ordered it should be added to the milk and water after it has been taken from the stove.

Pour into the nursing bottles, cork with sterile absorbent cotton and cool quickly in cold water; then place on the ice.

Symptoms Requiring Special Modification of Milk.—

If there is a deficiency of *sugar*, the gain in weight is slower than normal. If there is an excess, there is colic, or thin, green, very acid stools, causing irritation of the buttocks. In some there will be eructation of gas from stomach and small amounts of food vomited.

An excess of *fat* is indicated by regurgitation of food in small amounts at frequent intervals, usually two or three hours after eating. Sometimes by frequent passages from the bowels, that are nearly normal in appearance. At other times the stools will contain lumps that look like casein, but are in reality fat. Rarely too much fat causes colic. Too little fat gives a constipation with hard, dry stools. But a hard, dry stool may come from other causes.

An excess of *protein* gives an abundance of curds in

the stool with lots of colic, sometimes diarrhea, but more frequently constipation.

In a general way to sum up these statements, we have the following: If *not gaining in weight* and no signs of indigestion, increase all ingredients of food. If *habitual colic*, diminish the proteins; for *frequent vomiting soon after eating*, reduce the quantity; for *regurgitation of sour masses of food*, decrease the fats and sometimes the proteins; for *obstinate constipation*, increase the fats and probably the proteins. Very *irritating stools* generally mean too much sugar.

Rarely if ever is it necessary to resort to other foods, but when it is done it should be considered an emergency and the modified milk given as soon as possible.

Extensive research work on proprietary or baby foods when used exclusively, has revealed the fact that they should be condemned. They are expensive and do not give the baby the proper food elements, nor the proper proportion of these elements and the use of them results in rickets in a more or less marked degree.

For Demonstration.

The proper kind of utensils and bottles for making up the formula.

The way to prepare the "top milk" formula.

The way to prepare the "whole milk" formula.

The special way of boiling milk for an indigestion.

Review Questions.

What method should be followed as closely as possible in feeding an infant?

Discuss the importance of accuracy and attention to details.

Discuss the cause of and early treatment of an attack of indigestion.

Why should proprietary foods be condemned?

CHAPTER XXV

INFANT CARE AND FEEDING (CONTINUED)

Underfeeding.—In a breast-fed baby this is indicated by fretting and crying when the mother leaves the room or house; awaking at four or five o'clock in the morning, persistence in nursing longer and crying before it is time to nurse.

The bottle baby will cry before the next feeding time, early in the morning and frequently as soon as the bottle is taken away or show unwillingness to give it up.

Overfeeding.—Regurgitation or throwing up the food is Nature's way of regulating the quantity when too much food is taken at a time.

Restless sleep, vomiting, and loose bowels also indicate overfeeding by giving too much at a time or too strong food.

The trouble should be remedied by longer intervals between nursing periods or by reducing quantity and strength of food until the trouble subsides.

Weaning.—The average woman is able to nurse her baby from six to ten months. The early part of an infant's life requires careful watching to see that he is given enough food, and again during the later months, to see that he is getting a proper quantity of food. Weaning should always be done gradually. The milk must be cut to half the usual strength. An infant nine months old should be given a formula for a five month's old baby. It should be commenced by substituting a bottle of milk for a breast feeding, and gradually increasing the number of bottles each day. It is unwise to wean a

baby during the summer months. If the breast milk is insufficient and has to be supplemented with extra feeding, it is a very wise precaution to nurse the baby at regular intervals so that the breasts will not cease to secrete entirely. In case of illness the small amount of mother's milk that remains may be the means of saving the baby's life. If the baby is taught early to take drinking water from a bottle, it will aid greatly in the weaning. Older babies are sometimes very obstinate about taking the bottle. They may be coaxed into sucking the nipple by placing a little butter or bit of sugar on it. By persevering with this method they will learn that hunger is satisfied and they will welcome the sight of the bottle with glee. If such a method fails, starving to it is the only way.

Weaning from the Bottle.—Babies should not be weaned from the bottle too young. It is far safer for the child to take its full quantity of milk from a clean bottle than it is to take but half the quantity from a cup because of the other half going down its bib. Babies tire very quickly of drinking from a cup; therefore, the method that results in their taking but half the milk required for their growth is not the best one. They also tire more quickly of cold milk than they do of warm. Every strategy necessary to make them take the required amount should be resorted to. Older children may be induced to take a glass of milk by playing it is a soda fountain drink. A few drops of vanilla and a teaspoonful of sugar in a glass of milk stirred nice and foamy by an egg beater makes a fine milk shake. Such a plan may be resorted to when all other methods fail.

"The Feeding of Older Infants.—Unless a child has loose bowels he should be given from one to three tablespoonfuls of strained fruit juice once a day after he is five or six months old.

After he is eight months old he may be given two teaspoonfuls of beef juice, or some beef tea, plain mutton or chicken broth, to which may be added some chopped vegetables. This should be given once a day.

When he is ten months old he may have part of a soft egg, a small piece of crisp toast or zwieback, or a crust of bread to chew immediately after his feeding.

Other solid foods should not be given during the first year.

At twelve months he may take his milk undiluted and strained cereal may be given twice a day. He should have four glasses or bottles of milk daily.

During the second year the child should have four meals a day. Hours: 6 A.M., 10 A.M., 2 P.M., 6 P.M. Nothing but water should be allowed between his meals.

When fifteen months old he may have at first a teaspoonful, later one tablespoonful of rare scraped beef, mutton, or chicken.

When eighteen months old he may have one-half of a mealy baked potato daily.

When two years old he may have most of the fresh green vegetables when thoroughly cooked and finely mashed.

The juice of fresh fruits may be continued as in earlier infancy.

Cooked fruit, such as baked apple or apple sauce, should be given once a day after a child is eighteen months old; it should at first be strained.

Stale raw fruits are especially dangerous in the city and in the summer."

Weighing the Baby.—In order to determine how the baby is thriving, it is necessary to weigh him at stated intervals and compare the results. The average baby weighs about 7 pounds at birth, boys being slightly heavier than girls. A healthy baby may weigh as little as 5 or 6

pounds and as much as 10 or 12 pounds, but these weights are unusual.

A slight falling off in weight occurs during the first few days or the first week of life, amounting to a few ounces or as much as a pound, but this loss is promptly regained in from four to ten days, and from that time the baby should show a constant gain in weight. During the first month the weekly gain should average about 12 ounces; at seven months, about 5 ounces; and at one year, about 4 ounces, per week.

The average baby gains about $1\frac{1}{4}$ pounds a month for the first six months and 1 pound a month from that time to the end of the first year, doubles its weight at about five or six months, and trebles it at the end of the first year.

A diminishing weight demands careful attention. If there is a loss in weight, and especially if it is accompanied with other symptoms of illness, a good doctor should be consulted at once. If these conditions occur in the heat of summer, the physician will make any change in the diet with very great caution, taking pains not to increase the food to the extent of producing diarrhea.

"A very rapid increase in weight is not to be desired. The ideal in baby feeding is not to produce a fat baby, but rather a proportionately nourished one. It is comparatively easy to grow fat, but it is a harder and slower process to grow muscle, bone, blood, and nerve tissue. The majority of mothers feel that if they have a fat, red-cheeked baby it is evidence they are giving the best sort of care, but this is not always true. Some of the well-advertised infant foods produce just this kind of babies, but the later development shows that the food was deficient in some of the important elements needed for the symmetrical development of all parts of the body,

and weakness of some part or some later deficiency of health may be the first indication that such babies were not properly fed. A perfect baby does not have the outlines of his muscles obliterated by wads and cushions of fat. He is alert, springy. The flesh is hard to pressure, not soft and flabby. His color is pinkish, save when the cheeks have been reddened by the cold or heat. Bottle-fed babies should be watched with particular care as to their weight in summer. It is better to have little or no gain during the excessive heat than to upset the digestion by overfeeding designed to keep the baby gaining."¹

THE NORMAL BABY

An inexperienced mother is often greatly at a loss to know whether a baby is properly thriving or not, and may be unduly alarmed at small matters, or may not understand the serious nature of certain conditions. It may be helpful to mention the leading characteristics of a normal, healthy baby, and the mother may assume the lack of these conditions to show that temporarily or otherwise the baby is not in perfect health:

A steady gain in weight.

Bowel movements of the normal number, color, and consistency.

Absence of vomiting or regurgitation of the food.

A good appetite.

A clear skin.

Bright, wide-open eyes.

Alert, springy muscles, which respond readily to any stimulus.

A contented expression.

Very little crying.

¹ From "Infant Care," Children's Bureau, Washington, D. C.

Quiet, unbroken sleep, with eyes and mouth tightly closed.

No evidence of pain or discomfort.

A constant growth in stature and intelligence.

Other points in a normal development are:

The soft spot in the top of the head begins to close at fourteen months and should be entirely closed at two years.

The baby learns to hold up his head, unsupported, during the fourth month.

He laughs aloud from the third to the fifth month.

He reaches for toys and holds them from the fifth to the seventh month.

At seven or eight months he is usually able to sit erect and hold the spine upright and the first lower teeth appear.

During the ninth and tenth months he makes the first attempts to bear the weight on the feet, and can usually stand with assistance at eleven or twelve months. At about the ninth month the first upper teeth appear.

He begins to walk with assistance in the twelfth and thirteenth months and walks alone at the fourteenth to sixteenth month.

At one year usually a few words can be spoken, and at the end of the second year the baby makes short sentences. He should have six teeth at twelve months and twelve teeth at eighteen months.

Children differ in the rapidity of their development, some being slower and some faster; therefore the mother should not be unduly alarmed at variations from this statement, although marked differences should put her on guard.

Teething is a normal development and its process does not cause any disturbance in the great majority of cases. Convulsions and digestive disturbances occurring at that

time may be to some extent aggravated by the fretting due to swollen gums, but their real cause is to be found in some form of faulty feeding or care.

Sucking the thumb should be prevented before it becomes an acquired habit, and the use of "pacifiers" should never be allowed.

Infant Feeding in the Tropics.—For information on this subject, write to the Labor Department, c/o Children's Bureau, Washington, D. C.

General Caution.—Infant's clothing and diapers should be washed with mild soaps and well rinsed; strong soap may cause chafing. Bed pads should be changed each day and the bedding aired and put in the sunshine. Sunshine and fresh air are nature's purifiers.

A baby's legs and feet should be kept warm. Socks may be worn in the summer time. When the air is cool enough for an adult to be uncomfortable without stockings, a child's legs should be protected with high stockings.

Shoes must be chosen to fit the shape of the foot. They should have broad toes.

Cloaks and caps should be abundantly warm; but never warm enough to cause the head or body to perspire.

Go-carts are convenient for getting about easily but a child should not be strapped into one and kept there indefinitely. Carriage robes for a go-cart should be made like a bag and the child slipped into it. A mother should consider how long a baby blanket would keep her feet and legs warm, while riding or sitting in the cold, outdoor air. A baby's feet should be examined when it is brought indoors; if the feet are cold the necessary wraps for warmth should be worn thereafter. It should be remembered that knitted wool sweaters and leggings are warm only when protection from the wind is given by an outer garment.

In cold, stormy winter weather children should not be taken out. Wraps can be worn while they take their airing in a room with open windows instead. In very hot weather the outing should be taken in the very early morning or evening. They should always be protected from flies and mosquitoes. A screened porch will greatly increase the comfort and health of children.

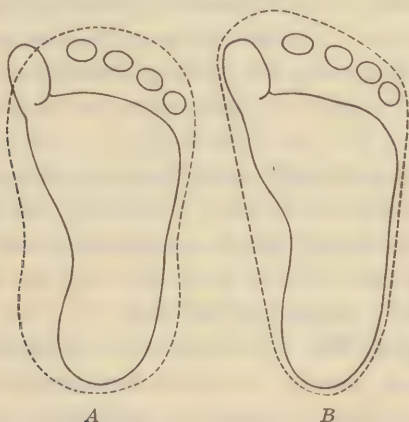


FIG. 48.—(A) Unsuitable, and (B), suitable shape for sole of child's shoe.

The proper care of the teeth from babyhood is an important essential of health. Keeping the baby's teeth clean prevents decay, and the prevention of decay not only greatly affects the growth of the permanent teeth but it also is a serious menace to health. The germs and poisons that exist in decayed teeth or about teeth that are not brushed or kept clean mix with the food and many diseases are now attributed to this as a source of infection. Regular visits to the dentist prevent expense in the care of the teeth instead of incurring it. The daily use of the tooth brush and the proper care of it after use should be a part of the daily care of the child.

Preventable Accidents.—If babies were born with the instincts of the lower animals, in scenting danger, many unfortunate and painful accidents would be averted. A young cat or dog will be frightened and protest against being taken within 3 feet of a kettle or tub of boiling water or an open window, but a young child will deliberately walk up and fall into it. Basins of lye, gasoline, or hot boiling fluids, should never be placed within the reach of children; such accidents always occur because someone thought the basin was not within the child's reach. The only safe rule to follow is that of not handling such things when the child is in the same room.

Open windows should always be screened and the screen should be fastened securely. Children should not be allowed to run about with sharp sticks or pencils in their mouth or hands. Many eyes have been put out and throats seriously injured in this way.

The Creeping Pen.—Every mother who cares for both baby and home should have or make a creeping pen. In fact, the large box 18 inches or 2 feet high, covered with a simple padding to protect the wood and edges is a safer pen for protecting a baby or child from cold draughts and crawling about over dirty floors than the much more expensive creeping pen without a bottom and closed sides. Every child can be taught to be happy and content, when placed in one, if they are made warm and comfortable and not neglected. The busy mother in the humble home will more than half solve the problem of the care and even the health of a baby, by such a device. It not only allows her to go about her work but relieves her of constantly having a care for the safety of the child. It prevents the child from cold draughts and from getting into dirt and danger.

When it is necessary to protect willful or reckless older

children from running away from home, a mother uses good judgment when she safely tethers such a child out as one would a young calf. This, however, should never be done in a spirit of punishment or humiliation, but for the simple reason of knowing that the child is safe and near mother. Such children can be taught to play and content themselves if it is done in the proper spirit. Boys have always played at being a horse tied to a tree; a big watch dog guarding the house appeals to any boy's imagination.

A wise mother will carefully study childish faults and bad habits and seek the remedy. They are not always due to bad temper or willfulness.

Too many children have had their tender feelings hurt by being called stupid when seriously afflicted with adenoids and bad tonsils, poor eyesight or defective hearing.

Bed wetting is a weakness that cannot be controlled except by taking the child up frequently. Medical treatment may improve or control the condition and a child should not be punished for it.

Every child wishes to be beautiful, and the person who tells a homely, unattractive child that she is "ugly" lacks the womanly gentleness that every mother should possess.

Their natures should be moulded into the proper respect for older people and gentleness and kindness to pets and animals, by teaching them that hunger, thirst, and cold are cruel suffering; that striking the kitten or dog an ugly blow with a stick must hurt it far more than such a blow would hurt a big boy because the kitten is so much smaller, and, its bones can be easily broken.

By testing out how much an equal blow from a stick hurts and by telling how painful a broken bone would be

NOTE—Puppies or kittens whine at night from cold. If put in a warm bed and covered over, they will keep still and sleep well all night.

without any care, few children would fail to understand the importance of kindness to animals.

Review Questions.

Discuss the weighing of the baby.

Does a fat baby always indicate a normal baby?

What are some of the symptoms of underfeeding?

What are some of the symptoms of overfeeding?

Discuss weaning the baby.

Discuss the feeding of older infants.

Give the characteristics of a normal baby.

Discuss Teething.

Is weaning from the bottle advisable if the baby refuses to take the proper quantity of milk from a cup?

Discuss topics under General Caution and preventable accidents.

How can an inexpensive creeping pen be made?

Discuss the teaching of good manners and kindness to animals.

CHAPTER XXVI

ESSENTIAL FOODS FOR CHILDREN

Important as is the proper feeding of the infant during the first two years, the growth and normal development of the child after that critical period is still dependent upon proper food and living conditions.

The great proportion of defective development revealed in the draft for military training proves our ignorance and indifference toward child welfare conditions in the past. Whatever the reasons for such results, their improvement adds a tremendous responsibility firstly to parenthood and secondly to our community problems in making adequate provision for such education as is necessary to meet the required needs of the physical and mental development of the child.

Next to the importance of the proper housing and provision of food, the proper education of the mother on the subject is the most important. Her problems do not cease at the end of the important two year period; in fact, without careful supervision in the selection of food and training in the eating of it much permanent harm may be done.

It may be instructive to refer here to the subject of rickets (page 171)—a disease which “without question is the most common, the most important and in its effects the most fatal of the diseases which exclusively affect childhood.

“The disease commonly develops during the second and third years, but is frequently seen as early as six months in babies that have been improperly fed.

“It is a chronic disease of nutrition; it is not to be re-

garded as exclusively a disease of the bones, but a very complex disease which affects the bones, muscles, ligaments and nearly every organ in the body, especially the nervous system. Diet alone causes it and cures it."

Therefore without the proper correction of the condition before permanent harm is done the danger of defective development is great, and it is a fact that much of the defective development now existing in adult life can be attributed to an uncorrected case of rickets in early childhood. This fact alone should emphasize the need of the wider education of the young women of the present generation in the important subjects relating to proper food as the most essential need in the normal growth of the child from infancy.

Nutrient Measured in Calories.—In order to form an estimate of the food value of such foods as we use the term "calory" for measurement just as the inch is used as a unit in lineal measurement.

A calory is the amount of heat required to raise the temperature of a pound (pint) of water to 1°F . Most of our foods produce heat and their heat value equals their value as nutrient.

Since the adult body requires from 2500 to 3000 calories a day and since the energy freed in producing one calory is equal to that used in raising 150 lb. 20 ft., the amount of force the human body generates is amazing.

Essential Foods.—Tremendous as is the variety of foods, the body recognizes only a few chemical groups, each of which are obtained from many different sources. Of these recognized groups foods are:

1. Protein or the nitrogenous foods (containing nitrogen).
2. Carbohydrates and fats or the non-nitrogenous foods (containing carbon).
3. Mineral salts.

4. Water.
5. Fruits and vegetables.
6. Vitamines.

7. Cellulose or woody fibre which is not a food but is essential to digestion.

Protein.—The special function of protein is the repair of waste and the building up of the living cells of the body which are constantly breaking down; without it our bodies would wear out. It also provides nitrogen, an important element for the growth of the child, and repair in adult life.

The *most common protein foods are*: Lean meats, white of egg, cheese, milk, poultry and the dried legumes (beans, peas, lentils, cowpeas). The majority of our most common foods contain larger or smaller quantities of it, such as fish, nuts and cereals.

Part of the needed protein should come from the protein rich vegetables as the body requires a *variety* of the different proteins as much as it requires a variety of other foods.

The child's total protein requirement is more per unit body weight than the adult's, the normal need of both being 10 per cent. of the ration.

In the process of digestion after several chemical changes the protein is finally absorbed as amino-acids and their real food value is estimated from their amino-acid efficiency; hence the need of a variety of the proteins so as to provide for a possible lack of a sufficient proportion of certain ones of them.

An important part of the digestion of the proteins takes place in the stomach; their completion of digestion and assimilation takes place in the small intestine.

The carbohydrates are the starches, sugars and fats. Their chief function is to supply heat and energy.

The *starches* are such cereals as wheat, rice, rye, barley,

oats and corn and the starchy vegetables (white and sweet potato).

Cereals come near to being complete foods when prepared with the whole grain included, as in cracked or shredded wheat and Scotch oatmeal. In this form they provide protein in addition to starch; they, however, should only be one source of the protein requirement of the body.

Sugar supplies a part of the heat and energy of the body and is obtained from milk, fresh fruits, cane sugar syrup and honey. The body requires more than is ordinarily obtained from milk and fruits, but excessively large concentrated amounts of sugar irritate the stomach and abnormally increase the mucous secretions and gastric juice and diminish the appetite for more wholesome food.

The *fats* are obtained from fat meat, nuts and oils, butter and cream. They also furnish heat and energy and constitute the adipose or fatty tissue of the body. They yield two and one-fourth times as much energy as an equal weight of starch or sugar.

However, the proportion of calories from the starches and sugar should yield about twice as many as from the fats and oils.

The *digestion* of the starches and sugar is begun in the mouth (if well masticated) and is completed in the small intestine.

The fats are emulsified in the stomach and digested and assimilated in the small intestine.

Mineral Salts.—These are absolutely necessary for the building of bones and teeth and maintaining the normal alkalinity of the blood. They assist in the diffusion of the fluids of the body and aid in the digestion of foods. Iron, phosphorus, and lime are of particular importance in the child's diet. In the following table a list of these essential minerals are arranged in the order of their diminishing content per unit weight:

Iron	Phosphorus	Calcium (lime)
Beans	Beans	Almonds
Peas	Yolk of egg	Beans
Wheat	Dried peas	Egg yolk
Beefsteak	Peanuts	Milk
Spinach	Wheat	Peas
Oatmeal	Oatmeal	Oatmeal
Raisins	Almonds	Walnuts
Eggs	Walnuts	Peanuts
Dried prunes	Lean beef	Turnips
String beans	Rice	Parsnips
Corn meal	Parsnips	Carrots
Potatoes	Potatoes	Oranges
Barley flour	Turnips	Prunes (dried)
Cabbage	Beets	Wheat
Sweet corn	Pineapples	Beets
Rice	Bananas	
Apples	Oranges	
Milk	Apples	

Nearly all the ordinary foods contain some mineral matter; children must have an adequate supply of inorganic salts, found in fruit, vegetables, and milk; milk is particularly rich in limes.

Water.—Water constitutes two-thirds of the body weight and a child should drink one and one-half quarts of fluid in twenty-four hours. The infant needs four times as much fluid per body weight as the adult. It is nature's provision for the regulation of the body functions. It maintains the normal temperature, accelerates chemical reactions, conveys food and oxygen to the tissues, and removes waste products.

The child should have plenty of water to drink during and between meals. A glass of water after rising and one before retiring will aid in the regulation of the bowels.

Vitamines.—Not a great deal is known of the vitamins except that the human body does not get along well without them. Scurvy on board ship and beri-beri are ascribed to the lack of them. Scurvy in Europe in the middle ages is said to have been checked by the introduction of the

potato as a food, which is rich in vitamins that are not destroyed by cooking. Cooking in many cases destroys the vitamins. This is the case in fruits that are cooked for canning at a high temperature unless of an acid reaction. This means then that the use of some raw foods, such as fresh fruit, celery, lettuce, tomatoes, cooked acid fruit, milk and nuts are essential.

Cellulose or woody fibre. This is not digested but is as valuable as if it were. It is obtained from fruits, starches and vegetables—celery, lettuce, asparagus, cauliflower, cabbage, corn, berries, are all of value in supplying cellulose and some of these foods should be eaten each day. A certain bulk is necessary both for comfort and for proper action of stomach and bowels.

Having thus considered the essential chemical groups we may now consider the proper proportion of these groups. The standard is about 17 calories to the pound of adult weight and a man weighing 154 pounds at moderate work requires about 3000 calories a day.

A baby up to a year and a half requires about 800 calories.

Children of 2 to 6 years of age require two-fifths as much food as a man, or 1160 to 1418 calories.

Children of 6 to 15 years of age require one-half as much, or 1450 to 2050 calories.

A boy of 15 years requires as much as an adult—from 2500 to 3000 calories.

The **proportion of protein** should consist of one-tenth of the total calories of the ration and the child's total protein requirement is more per unit body weight than the adult's owing to the steady growth of the child.

The *protein requirement* should be gained from a variety of the protein foods as stated on page 237. Each meal should contain a balanced proportion of it. For instance:

A cereal with milk for breakfast.

Fish, meat or an egg for dinner.

Milk soup, or bread and milk for lunch or supper would provide a sufficient and equal proportion of protein for the day.

A child that eats an abnormal quantity of starchy vegetables and sweets is probably not getting enough protein with which to maintain the normal growth. On the other hand, the eating of an abnormal quantity of protein may be due to an insufficient supply of starches and fats.

Of carbohydrates twice as many calories should be provided from the starches and sugars as the number of calories provided from the fats.

Satisfactory nutrition is obtained in the following proportions:

$\frac{1}{3}$	Milk
$\frac{1}{3}$	Meat
$\frac{1}{3}$	Eggs
$\frac{1}{3}$	Fish
$\frac{1}{3}$	Cereals or seed products (bread, etc.)
$\frac{1}{3}$	Butter and other wholesome fats.
$\frac{1}{3}$	Vegetables and fruits.
$\frac{1}{3}$	Simple sweets

Milk has no duplicate and towers above all other foods for a child. It contains every essential food for the child's growth. It must, however, be considered a food and not as a drink for washing down solids.

Children taking the full allowance of one quart of milk a day are sometimes so well nourished as to have but little appetite for other foods; they tire quickly of chewing solids and in fact become lazy about performing the necessary act of mastication.

This is a serious error in its training; while the milk is of primary importance, teaching the young child to chew its food is also of great importance. The plan of drinking the glass or cup of milk first and the withholding of a

tempting sweet, until after the solid food has been eaten is a practical and usually effective remedy, but if all reasonable efforts fail it is probably wise to reduce the full allowance of milk sufficiently to stimulate a better appetite for the necessary solid food until the habit of chewing food has been established. It should be warmed to blood heat for all young children. Milk should not be given as a drink between meals. It requires digestion and would thus prevent the digestive organs having the necessary rest between meals.

The child that refuses to take the required amount of milk multiplies the mother's problems tenfold. The difficulty must be overcome by giving the required amount in desserts, milk soups, and gravies, milk shakes, cocoa, and creamed vegetables.

When whole milk cannot be afforded, good skim milk is the next best substitute for older children; it contains all the food value of the milk except the cream; an extra piece of butter will supply the loss of the cream. Infants fed wholly on canned milk frequently develop infantile scurvy page 172.

A child properly fed as we now understand his bodily needs should receive every day at least one food from each of the following groups:

1. Milk and dishes made chiefly of milk (most important of the group as regards children's food), also meat, fish, poultry, eggs, and meat substitutes.
2. Bread, macaroni and other cereal foods.
3. Butter and other fats and oils.
4. Vegetables and fruits for bulk and minerals.
5. Simple sweets.

The following bills of fare are simple and easy to prepare and afford a sufficient amount of nourishment and variety, such "accessories" as butter and sugar are not mentioned but are understood.

Orange (juice only for the youngest children).	Stewed prunes (pulp only for the youngest children).
Farina with milk.	Cornmeal mush and milk.
Bread and butter. 516 calories.	Toast and butter. 689 calories.
Apple sauce.	Grape fruit (juice only for the youngest children).
Oatmeal with milk.	Cream toast. 464 calories.
Toast and butter. 561 calories.	Apple (scraped for very little children).
Baked apple (pulp only for the youngest children).	Toast.
Milk toast.	Hot milk. 289 calories.
Cocoa. 587 calories.	

DINNER

Meat soup.	Creamed potatoes.
Egg on toast.	Green peas.
String beans.	Stewed plums with thin cereal-milk pudding. 621 calories.
Rice pudding. 387 calories.	Baked halibut.
Roast beef.	Boiled potatoes.
Baked potatoes.	Stewed celery.
Asparagus.	Boiled rice with honey or sirup. 660 calories.
Bread and jelly. 739 calories.	Broiled meat cakes.
Lamb stew with carrots and potatoes.	Grits.
Twice-baked bread.	Creamed carrots.
Tapioca custard. 602 calories.	Bread, butter, and sugar sandwiches. 564 calories.

In each case enough milk should be given to make up the required daily amount, which is about a quart.

SUPPER

Baked potatoes, served with cream and salt, or with milk gravy.	Graham crackers and milk.
Cookies. 296 calories.	Baked custard. 410 calories.
Bread and milk.	Milk toast.
Apple sauce.	Stewed peaches.
Sponge cake. 609 calories.	Cup cake. 671 calories.
Potato-milk soup.	Celery-milk soup.
Twice-baked bread.	Toast.
Marmalade sandwiches. 649 calories.	Floating island. 335 calories.

The mistake of *too much concentration* will always be avoided if fruit and vegetables, either raw or cooked, are included in the food each day. Too much concentration will cause constipation.

The fear of *wrong combinations* is carried to faddism by many people. If the *right proportions* of nourishing foods are selected there need not be any worry about harmful combinations beyond what taste and common sense dictate. It is true that fruit acids will curdle milk, but so will the gastric juice; it is the first step in its digestion.

The *combinations to be considered* are those which supply the lack of a needed element in one food by adding another rich in the lacking element, such as rice and milk, fish and potatoes, bread and butter or cheese, nuts and fruit, etc.

Instinct is not a true guide for children.

The woman who said she had a "theory" that a child's craving for candy was a sure proof of its needing it sadly needed instruction in child feeding.

In fifteen peanuts there are 128 calories. In one cube of sugar there are 29 calories. In one heaping teaspoonful of powdered sugar there are 49 calories. The custom of not making any estimate of these items or "accessories" in the food ration is the cause of a frequent lack of balance. Therefore a quantity of candy or a bag of peanuts eaten between meals would naturally overload the system with their particular food values, and prove that many foods hard to digest by themselves, become very easy to digest when eaten in a proper portion and digested with other foods.

Make radical changes in the diet gradually. Digestion is a habit and a sudden decided change will cause a disturbance; digestion is usually more rapid and complete on a mixed diet.

Teach the child from the beginning to enjoy the *natural flavor of foods*. Highly seasoned food loses its true flavor

and whips up the appetite to desire more than the body needs. The seasoning with salt or sugar should be reduced to the minimum.

Candies or cookies should always be eaten with the meal and considered as part of the food ration; they should never be eaten between meals.

Substitutes.—Canned milk is a poor but probably the best substitute for fresh milk.

Nuts and oils are the best substitutes for butter and animal fat.

Fish and the whole grain cereals, dried peas and beans are the best protein substitutes for meat, milk and eggs.

The potato is the best substitute for other fresh or canned vegetables, and canned or dried fruits are the best substitutes for fresh fruits.

All, however, are not sufficient as to their particular class of food. As stated before we need a variety of protein, of both fresh and cooked vegetables, and of fresh fruit in preference to canned fruit at least in part.

The School Age.—With the beginning of the school age the child should be able to eat and digest practically the same foods as the adult, if the proper proportion in regard to age is maintained.

The effect of school life upon the child is immediately noticeable, and the falling off of appetite, weight and activity must be intelligently observed and counteracted. The foods of the family should be selected with careful attention given to the needs of the child.

The breakfast of cereal and milk, bread, butter and fruit, should be the rule. The fruit however may be eaten between meals if preferred. The cereal and milk make a more suitable breakfast for the child than one of egg and bread and butter, because of the need of the necessary bulk or cellulose obtained from the starch. The egg makes an excellent meat substitute for the lunch or dinner menu.

The school lunch is always a vexing problem for all households. The substantial hot soup or egg with milk, bread and butter and fruit is always a satisfactory lunch, but where nothing hot can be included the cold lunch should always consist first of good bread and butter; this can be made palatable in the form of the sandwich; any suitable filling from left-over meats, fish, chipped beef, vegetables or fruit jellies or jams, and even sugar, may be considered wholesome, all having valuable food properties needed for the child's growth. In addition to the sandwich, fruit should be included. In combination with the bread and butter sandwich, raisins, nuts and sweet chocolate or a simple cooky, will give a suitable balance.

The school lunch problem, however, will never be fully solved until each pupil is served a glass of whole milk. Where the milk ticket cannot be afforded, it should be provided from some other source and considered as necessary as the teaching of Latin.

The dinner or main meal should consist of a meat (preferably lamb, poultry or beef) or meat substitute, milk, vegetables in season and preferably fruit for dessert.

The American tendency is toward a too high proportion of protein for adults. When an egg for breakfast and meat for dinner has been eaten beans or cheese that same day would exceed the allowance; the protein should not exceed $\frac{1}{10}$ of the total ration.

Of a total of 2500 calories, there would be:

1. Of protein 250.
2. Of starches and sugar 1500.
3. Of fats 750.

Another American mispractice is the lack of balance of *acid* and *base forming* foods. It is a dietary factor of vital importance.

The chief *acid forming* foods are: egg yolk, fish (haddock) lean beef, oatmeal, eggs, whole wheat, rice, crackers.

The chief *base forming* foods are: dried beans, raisins, celery, cantaloupe, lettuce, potatoes, oranges, lemons, bananas, cauliflower, cabbage, apples, milk.

Both are listed according to their decreasing resultant, acid forming or base forming efficiency. The base forming foods should predominate.

The child's diet should consist of sufficient milk, fruit and vegetables to neutralize the acids formed from the other groups. Desserts then should largely consist of fruit with but few of the simplest of egg preparations.

CLASSIFICATION OF COMMON FOODS¹

	Poor in fat	Rich in fat	Very rich in fat
Very high in protein (above 40 per cent. of total calories)	White of egg Cod fish Lean beef Chicken Veal		
High in protein (20 to 40 per cent. total calories)	Shell fish Skim milk Lentils Peas Beans	Most fish Most meats Most fowl Whole egg Cheese	
Moderate or deficient in protein (zero to 20 per cent.)	Most vegetables Bread Potatoes Fruits Sugar	Peanuts Milk Cream soups Most pies Doughnuts	Fat meats Yolk of eggs Most nuts Cream Butter

In order to maintain a diet correct as to protein, it is only necessary to make the main choices from the lowest row and in case the foods so chosen are near the bottom, to supplement these by a moderate use from the middle row and a still more sparing use of those in the top compartment.

¹ From "What to Eat" Review of Reviews Co.

Normal Growth.—Roughly speaking the height and weight of a child may be taken as an index of his health; for this reason growing children should be regularly weighed and measured and a record of the figures kept for reference.

The following table gives the average weight and height from 3 to 15 years of age; it is based on the measurement of 23,931 school children (13,415 boys and 10,516 girls).

TABLE OF HEIGHTS AND WEIGHTS OF CHILDREN¹

Age	Boys		Girls	
	Height, inches	Weight, pounds	Height, inches	Weight, pounds
36 months.....	37 $\frac{1}{8}$	32 $\frac{1}{4}$	36 $\frac{3}{4}$	30 $\frac{1}{2}$
37 months.....	37 $\frac{3}{8}$	32 $\frac{1}{4}$	36 $\frac{3}{4}$	30 $\frac{3}{4}$
38 months.....	37 $\frac{1}{2}$	32 $\frac{3}{8}$	37	31
39 months.....	37 $\frac{7}{8}$	33 $\frac{1}{8}$	37 $\frac{1}{4}$	31 $\frac{5}{8}$
40 months.....	38 $\frac{1}{2}$	33 $\frac{1}{2}$	37 $\frac{1}{2}$	32
41 months.....	38 $\frac{5}{8}$	33 $\frac{5}{8}$	37 $\frac{3}{4}$	32 $\frac{1}{4}$
42 months.....	38 $\frac{5}{8}$	33 $\frac{3}{4}$	38	32 $\frac{1}{2}$
43 months.....	38 $\frac{3}{4}$	33 $\frac{3}{4}$	38 $\frac{1}{4}$	32 $\frac{3}{4}$
44 months.....	38 $\frac{7}{8}$	34 $\frac{1}{4}$	38 $\frac{1}{2}$	33
45 months.....	39	34 $\frac{1}{2}$	38 $\frac{1}{2}$	33 $\frac{1}{4}$
46 months.....	39	34 $\frac{3}{4}$	38 $\frac{3}{4}$	33 $\frac{1}{2}$
47 months.....	39 $\frac{1}{4}$	35 $\frac{3}{4}$	38 $\frac{7}{8}$	33 $\frac{1}{2}$
48 months.....	39 $\frac{1}{2}$	35 $\frac{7}{8}$	39	33 $\frac{3}{4}$
5 years.....	41.6	41.1	41.3	39.7
6 years.....	43.8	45.2	43.4	43.3
7 years.....	45.7	49.1	45.5	47.5
8 years.....	47.8	53.9	47.6	52.0
9 years.....	49.7	59.2	49.4	57.1
10 years.....	51.7	65.3	51.3	62.4
11 years.....	53.3	70.2	53.4	68.8
12 years.....	55.1	76.9	55.9	78.3
13 years.....	57.2	84.8	58.2	88.7
14 years.....	59.9	94.9	59.9	98.4
15 years.....	62.3	107.1	61.1	106.1
16 years.....	65.0	121.0	61.6	112.0

¹ From "Child Care," Children's Bureau, Washington, D. C.

Undersize or *oversize* according to the age is of less importance than the proper weight for the given height. The table, however, represents the average taken from a large group of average children without regard for the exceptional cases. When the child is underweight, success in bringing him up to the normal weight can always be attained in every instance unless the child has some organic disease.

There is always a cause for a stunted growth. It may be mal-nutrition; it may be lack of proper housing, clothing, regulation of good habits, worry or physical defects such as poor eyesight, defective hearing, bad tonsils, adenoids, need of circumcision, etc.

Mal-nutrition is not by any means confined to the homes of the poor who are unable to afford sufficient food. Of the chief contributing causes we have the following of which three-fourths can exist in the homes of the well-to-do:

Not enough food taken.

Improper food.

Eating too fast.

Too many sweets.

Too long periods between meals.

Uneven amounts at various meals.

Washing food down with liquids.

Insufficient supply of milk.

Insufficient breakfast.

All cases of mal-nutrition require more food than they have been in the habit of taking and it should be of the proper kind. Milk or a sandwich should be taken between meals; there should be a rest period preferably before the mid-day meal and from 4 to ^m5 in the afternoon, and at 7:30 or 8 P.M. bedtime hour should be strictly adhered to. The over-tired child is fretful, sensitive and unhappy.

Few children require drugs as a corrective remedy. They should be taken only when advised by a competent physician.

In addition to proper food, and care corrective physical exercises properly taught are of great value in bringing the under-developed child up to normal.

Plenty of out-of-door exercise during intermission and after school, well ventilated living and sleeping rooms, sufficient clothing, proper bathing and care of the teeth are all of primary importance in keeping the child up to normal. The nature of the common physical defects of children should be familiar to all mothers and teachers; they of all others come in the closest daily contact with the school child.

CHAPTER XXVII

RULES FOR SERVING FOOD

Food for the sick should be nourishing, delicious to the taste, and temptingly served.

All foods, including liquids or a glass of water, should be carried to the patient on a tray.

First, there should be a suitable tray. The napkin and tray cloth should be spotless; the china and silver the best the house affords.

Second, hot food should be served hot, not lukewarm; to prevent this always make the patient ready for the meal before the tray is served; serve cold food and drinks cold. Do not serve too large portions and allow the patient plenty of time to eat so that the food can be thoroughly masticated and mixed with the digestive juices. Do not spill liquids, such as tea or coffee, on the saucer, and never grasp a glass at the rim where the patient will drink; a cup should be held by the handle and a glass at the bottom. If a glass tube is not used, never fill cups or glasses more than three-fourths full. If the patient feeds herself, see that the tray is conveniently placed. If a bedside table is not used, a pillow on the lap chair or bed, may steady the tray and give the proper height. A poor appetite can often be encouraged by feeding the patient, during which conversation may aid and encourage forgetfulness. Always remove all left-over food at once from the room. It is needless to say the nurse's hands should always be clean; it is also refresh-

ing to the patient to have her hands washed before each meal.

Feeding Feeble or Unconscious Patients.—Nourishment for this class of patients is usually confined to liquids, and should be given in small quantities and at frequent intervals—from every half hour to every two hours. The usual nourishment is milk, gruel, beef tea, oyster broth, or raw oysters, eggnog, beef juice and peptonized milk. They should always be daintily served and taken through a glass tube or feeding cup which must be kept clean by scalding or boiling.

To feed the unconscious patient, pass the spoon containing the food or medicine far back into the mouth, empty it slowly and then close the lips and nostrils; the patient will involuntarily swallow.

After giving a sick person nourishment of any kind, a sip of water is most refreshing. It removes the thick, slimy taste left on the tongue from milk and will aid greatly in preventing the patient taking a dislike to nourishment; owing to the abnormal conditions of fever and coated tongue no food tastes good, and is apt to leave a disagreeable taste in the mouth.

Liquid diet includes a variety of nourishing foods given in liquid form. Milk is the most nourishing food used for liquid diet. It should be served in a glass with bent glass tube, or in a feeding cup, and carried to the patient on a small tray.

LIQUIDS FOR INFANTS

Lime Water.—Put a piece of unslaked lime the size of an egg in a 2-quart jar of cold, boiled water. Stir thoroughly and let it settle. Then pour off the clear portion for use. Add more water to the jar; keep it covered and it can be thus used until all has been taken up. It is of fixed strength.

Barley Water.—Wash 2 tablespoonfuls of pearl barley. Boil five minutes in a cup of fresh water and drain and throw the water away. Then add 2 quarts of boiling water and boil down to 1 quart. Add a pinch of salt and strain.

Albumin Water.—Use the white of one egg to 8 ounces boiled water. Break the white by stirring slightly with a silver fork; put it into a bottle and add the water and a pinch of salt. Mix by shaking until the egg is dissolved.

Broth.—Beef, mutton or chicken are better for broth than veal, lamb or young fowl. Use 1 quart of water to 1 pound of meat. Cut the meat in small pieces; crack the bones and put in a stew pan, adding the water cold. Bring slowly to a boil, and simmer for three or four hours, or until reduced to half the quantity of liquid; strain and remove fat, when cold. It will not jelly if allowed to boil instead of simmer.

For older babies, celery and other chopped vegetables may be added.

LIQUID DIET FOR ADULTS

Chicken Broth.—One-half of a 4-pound chicken, 2 quarts of water. Cut up the chicken and crack the bones. Add the water and bring slowly to boiling point. Skim and simmer slowly for about three hours. Strain off the fat. Add a teaspoonful of rice, a sprig of parsley, and simmer until rice is done. Season to taste.

Boullion, No. 1.—Two pounds of lean beef. One quart of cold water. One small onion. A bay leaf, sprig of parsley. Free the meat from all fat. Chop fine. Put in kettle with water, onion, bay leaf, parsley and celery. Cover and place it on the back part of the range for an hour, then slowly bring to a boil and skim. Move back and simmer for two hours. Strain, return to the kettle

and add seasoning. Let it come to a boil. Beat the white of an egg and shell with one-half cup of cold water. Add quickly to the bullion. Boil one minute and strain through double cheese cloth. Color with $\frac{1}{2}$ tablespoonful of caramel to a quart of bullion.

Boullion No. 2.—Same proportions as above. Put into a kettle with water and flavoring and let soak one hour; stir occasionally and bring slowly to a boil. Skim, season and clarify as above.

Passing tissue paper quickly over the top will remove the fat from broth.

Beef Extract.—One pound of round steak. Wipe and remove all fat. Cut in small pieces, place in a fruit jar, put cover on jar, and set in kettle of cold water. Put a tin or piece of board under the jar to prevent breaking. Let the water heat slowly for two hours but do not let it boil. Press the meat to obtain all the juice. Add salt and pepper and strain. This can be made in a double boiler. Do not boil when reheating.

Beef Tea.—Prepare steak the same as for beef extract. Soak beef in 1 pint of cold water for fifteen minutes, then put steak and water in fruit jar and proceed the same as in making beef extract. When serving, heat but do not boil.

Beef Juice.—One pound of round steak. Remove all fat and cut in small pieces. Heat a fruit press or old-fashioned lemon squeezer in hot water and drain. Put the meat in a dry pan and shake over the fire until hot but not cooked. Put at once into press. Squeeze all the juice possible. More juice can usually be obtained by reheating both meat and press and squeezing again.

Meat Jellies.—Cut chicken or other meat in small pieces, removing fat, and breaking bones. Put in cold water using 1 pint for every pound of meat. Heat slowly at

first, then simmer until the meat is done. Strain and remove the fat by passing a tissue paper over the surface of the liquid. Add salt, pepper, and lemon to taste. Pour into small cups to set. When serving, turn out on a lettuce leaf if the patient is able to feed himself with a spoon. The jelly on a tray with a cup of tea or coffee or a glass of water will seem like a real meal while in reality it is only liquid diet.

Oyster Broth.—Remove the stomachs from one-half dozen oysters. Chop. Add 1 cup of cold water. Bring to a boiling point and simmer five minutes. Season and strain; serve with whipped cream. Cream or milk may be added to the broth before removing from the stove if preferred.

Koumiss.—Two quarts of milk, 2 tablespoonfuls of sugar and same of water. One-third of an yeast cake. Put the milk over the fire till it gets luke warm (98°). Put the sugar and water in a small sauce pan and stir over the fire till it boils. Dissolve the yeast in 2 tablespoonfuls of the warm milk. Add it and the syrup to the milk. Stir till well mixed. Fill sterilized beer or citrate of magnesia bottles to within 1½ inches of the top and let stand in a warm place for twelve hours, then turn the bottle carefully on its side in refrigerator for twelve hours.

Rice Water.—Cook 1 tablespoon of rice and a small piece of cinnamon in 1 pint of cold water until the rice is very soft. Strain and thin with milk to make a nice drink, season with salt, and serve hot.

Apple Water.—Pare and core one large sour apple, put 1 teaspoonful of sugar in the cavity and bake until very soft, pour water over it, and let stand for a half hour, then strain. This may be given to patients having great thirst or for constipation.

Toast Water.—Toast two or three slices of old bread

slowly and quite brown but not burned. Break in pieces and cover with 1 pint of cold water, let stand one hour, then strain, pressing the water out of the toast with spoon. Add a pinch of salt and cream, sugar if desired. Serve cold. Good in case of weak stomach or diarrhea.

Flaxseed Tea.—Put 2 tablespoonfuls of flaxseed into a pint of boiling water. Cover and let it simmer for one hour. Strain and add a tablespoonful of sugar and the juice of one lemon.

Cocoa Cordial.—Mix 1 teaspoonful of cocoa and 1 teaspoonful of sugar. Have ready $\frac{1}{2}$ cup boiling water. Add enough water to the cocoa to form a paste, then stir in remainder of water and boil one minute. Add $1\frac{1}{2}$ tablespoonfuls of port wine.

EGG PREPARATIONS FOR LIQUID DIET

Eggnog.—Beat one egg until the white and yolk are well blended, add 1 tablespoonful of sugar, a few grains of salt, $\frac{2}{3}$ cup of milk and 2 tablespoonfuls of wine or 1 tablespoonful of brandy. Nutmeg may be used in place of the wine or brandy if the patient does not need stimulation.

Egg Lemonade.—Break a fresh egg in a bowl and beat until the white and yolk are well blended. Add 1 glass cold lemonade and strain. This is nourishing and refreshing.

Mulled Wine.—Put a half pint of boiling water into a small sauce pan. Add a tablespoonful of finely broken stick cinnamon and five whole cloves. Cover and steep for ten minutes, then strain. Beat two eggs without separating. Add 2 tablespoonfuls of sugar and pour gradually into the spiced water. Add 1 gill of hot sweet wine. Pour the mixture into a pitcher and pour from one vessel to another eight or ten times.

Albumin Milk.—Beat the yolk of an egg with 2 tablespoonfuls of sugar. Add a tablespoonful of brandy.

Beat the white to a stiff froth and stir it carefully into the yolk. Fill up the tumbler with milk.

The white of an egg beaten to a stiff froth and flavored with the grated peel of lemon or orange may be retained when every other remedy fails.

Egg Cordial.—One tablespoonful of cream, white of one egg, 1 tablespoonful of wine. Whip the egg to a froth and add the cream. Whip both together. Then add the wine and 1 teaspoonful of sugar. This will stay on the stomach when nothing else will.

GRUELS

Cracker Gruel.—Roll and sift one-half large cracker, have in a double boiler 1 cup scalded milk. Add cracker and cook for five minutes. Salt to taste.

Oatmeal Gruel.—Coarse oatmeal $\frac{1}{2}$ cup, add 3 cups boiling water and 1 teaspoonful of salt. Cook three hours in a double boiler, strain, and add milk or cream.

Flour Gruel.—Two tablespoonfuls of flour, 2 cups of milk. Mix flour with a little milk to make a paste. Scald the remainder of milk in a double boiler, add flour paste, and cook one-half hour. Salt to taste.

Indian Meal Gruel.—Mix 1 tablespoonful Indian meal, $\frac{1}{2}$ tablespoonful of flour, add enough cold water to make a paste. Add to 2 cups of boiling water and boil gently for one hour. Add milk or cream and salt to taste. A richer gruel may be made by using milk in place of water and cooking three hours in a double boiler.

Barley Gruel.—Mix 3 teaspoonfuls of barley flour with cold water to make a thin paste. Add to 1 cup boiling water and boil fifteen minutes. Add $\frac{1}{2}$ cup milk and salt to taste. Reheat and strain when serving.

Arrowroot Gruel.—Moisten 2 level tablespoonfuls of arrowroot with a little cold water. Add 1 pint of boiling

water. Stir until it thickens and let it boil slowly for ten minutes. Take from the fire and add 2 teaspoonfuls of sugar and 2 tablespoonfuls of sherry wine.

Arrowroot with Egg.—Add slowly one egg beaten light. Serve with toasted crackers.

Rice Flour Gruel.—Mix a tablespoonful of rice flour with a little cold milk and add 1 pint of scalding milk. Cook for fifteen minutes. Add $\frac{1}{4}$ teaspoonful of salt, 2 teaspoonfuls of sugar, $\frac{1}{4}$ teaspoonful of ground cinnamon and a teaspoonful of brandy. This gruel is especially good in cases of diarrhea.

Peptonized Milk Gruel.—Make a good thick gruel of oatmeal or other meal. While still boiling add an equal quantity of cold milk. The temperature will then be about 140° . To a pint add 5 grains of pancreatic extract and 13 grains of bi-carbonate of soda. Keep at the same temperature for fifteen minutes then boil for a few moments and strain.

Peptonized Milk.—Into a clean quart jar put a pint of milk. Add a gill of water, 5 grains of pancreatic extract, and 15 grains of bi-carbonate of soda. Shake well and put in quite warm water for twenty minutes. Then boil for two or three minutes and put on ice.

HOW TO PREPARE EGGS FOR INVALIDS AND CHILDREN

Coddled Egg.—Put 1 quart of water in a sauce pan and bring to a boil. Drop the egg into the water; turn out the gas, and let stand five minutes. This is very nice broken on toast.

Coddled Egg No. 2.

1 egg.	1 teaspoon butter.
$\frac{1}{3}$ cup milk.	Salt.
Few grains pepper.	

Scald milk, and add egg slightly beaten. Cook over hot water, stirring constantly until of a soft, creamy consistency, then add seasonings. Serve with toast points.

Soufflièd Egg.—Separate an egg, being careful not to break the yolk. Beat the white stiff. Put it into a small dish and make a nest in the centre for the yolk. Drop in the yolk and stand the dish in a pan of hot water; put in the oven for two minutes. Put a tiny bit of butter, salt and pepper on the yolk and serve.

For those who do not like a soft yolk, a very digestible egg is cooked as follows: One egg to 1 quart of boiling water, turn out the gas, and allow the egg to remain in the water fifteen minutes. It will be set all the way through but not cooked hard.

Toast for sick people should have the crust removed and cut in strips an inch or two wide; if preferred crisp it should not be stacked, but laid log cabin fashion. A teaspoonful of butter rubbed into a teaspoonful of flour and added to the scalding milk makes a delicious cream milk toast.

KINDS OF DIET

Diets are divided into liquid, soft, light and full.

Liquid includes milk, broths, meat juices, meat jellies, ice cream and junket.

Soft diet includes cereals, soft cooked eggs, soft toast, custards, and soups and liquids with crackers that are included in liquid diet.

Light diet includes soft diet with a chop or white meat of chicken, oysters, etc.

Full diet means meat at least once a day and other food that may be considered nourishing and wholesome for a convalescent, or inactive person.

KINDS OF FOODS

The body requires proteins, carbohydrates and fats, oils, mineral matter and water.

The *proteins* are the tissue building foods, such as meat, fish, eggs, milk, cheese, peas, beans and lentils.

The *carbohydrates* are the heat and force producing foods; they are the starches and sugars, such as cereals, corn, rice, potatoes, sago, tapioca, fats, honey sugar.

The vegetables which contain mineral salts and little or no starch are of value for giving variety to the diet, and for the large amount of water and mineral matter which they contain. Vegetables containing little or no starch are: fruits, lettuce, radishes, onions, cauliflower, parsnips, cucumbers, tomatoes, artichokes, egg plant, turnips, squash, asparagus, string beans, cabbage, celery, spinach.

Foods for the Relief of Constipation.—Fruits such as oranges, berries, figs, prunes, peaches, apples, grape fruit. They should be eaten early in the morning and between meals. The laxative action is increased if followed by a glass of water.

Foods, such as fresh green vegetables, coarse cereals, olive oil, buttermilk, honey, rhubarb, nuts, are good.

A biscuit highly recommended for constipation is made as follows:

Wheat bran.....	1 pint
Whole wheat flour.....	1 quart
Milk.....	1 pint
Salt.....	1 pinch
Old-fashioned molasses.....	6 tablespoons
Baking powder.....	3 teaspoons
Bake in gem tins. Use from one to three or four each day.	

When a *laxative is resorted to*, such as cascara, it should be commenced by taking small doses and increasing the dose gradually until the proper regulation is established.

For instance, commence by taking 1 or 2 grains twice a day instead of taking 3 or 4 grains at bedtime. It is best taken in the required dose after the evening meal; it thus mixes with the food and produces the effects of a laxative food, see constipation, p. 164.

For Demonstration.

Preparation of patient for the meal.

A tray for liquid diet.

A tray for semi-liquid, light and full diet.

Preparation of suitable foods for liquid and light diets for the sick.

Review Questions.

Discuss the proper kind of foods for the sick and how it should be served.

When and how should the patient be prepared for the meal?

How would you feed an unconscious patient?

When giving a patient food of any kind, what should never be omitted on the tray? Why?

INDEX

A

Abrasions, 22-90
 Accidents, 106, 232
 Adenoids, 167, 172
 Age, care of, 188
 Air cushion, 49-105
 Alcohol rub, 51
 Alcoholism, 110
 Anemia, 155
 Anesthesia, 1
 Anti-septic, 78
 Anti-toxin, 8-9
 Applications, 64
 Appendicitis, 154
 Apoplexy, 111-112, 154
 Anopheles, 160
 Artery bleeding, 107
 Aromatic spirits of ammonia, 23-25, 112, 113

B

Baby. See *Infant Care*
 Bacteria, 1-3, 4
 Bandage
 triangular, 97
 spiral, 98
 figure eight, 99
 many-tailed, 99
 four-tailed, 99
 scultites, 100
 T bandage, 100
 Baths, 14, 35-36
 cleansing sponge, 37
 effects of, 66
 cold sponge, 67

Baths, evaporation, 68
 cold pack, 68
 hot pack, 69
 foot bath, 70
 Bed making, 28, 29, 40
 Bed linen, 39, 80-82
 Bed cradle, 48
 Bedpan, 36-50, 105
 Bed sore, 37-50, 143
 Bedside report, 124
 Bed wetting, 233
 Bi-carbonate soda, 22-26
 Bi-chloride, 78
 Bites, frost, 117
 insect, 117
 snake and rabid animals, 117
 Bleeding
 from artery, 107
 from scalp, 108
 from palm of hand, 108
 Blue lips, 130
 Blood poisoning, 9, 130
 Body needs, 12
 Body cleanliness, 14
 Boils, 118
 Boracic ac. solution, 22-25, 79
 Bottles
 hot water, 62-63
 nursing, 211
 Bowels, 128
 Breast
 engorged, 198
 Breast pump, 198
 Bright's disease, 155
 Bronchitis, 156
 Burns, 22, 114
 caused by acids, 116

C

- Camphor ice, 22
- Cancer, 126, 156
- Carbolic acid, 78, 117-120
- Cascara sagrada, 22, 165, 260
- Castor oil, 22, 23, 120, 168
- Cathartics, 164
- Catheterization, preparation for, 58
- Chafing, 22, 204
- Chickenpox, 134
- Chilblains, 117
- Chills, 126, 144
- Choking, 118
- Chloride of lime, 79, 142
- Chronic patient, 53
- Citrate of magnesia, 22
- Colic, 167
- Compress
 - cold, 64
 - wet, 64
 - Preissnitz, 70
- Constipation, 164-167, 260
- Convulsion,
 - epileptic, 157
 - uremic, 155
 - baby, 169
- Contagion, 35-77
- Colds, 35, 162-169
- Creeping pen, 232
- Crisis, 146
- Croup, 168
- Cuts, 22-149

D

- Danger signals, 125
- Delirium, 63, 131, 142
- Diabetes, 157
- Diarrhea, 129, 157
- Diphtheria, 9, 138
- Disinfectants, 27, 77-81
- Disinfection, 83, 141
- Dislocations, 103

Diets

- liquid, 252, 253
- kinds of, 259

Douche, 57

Dropsy, 127

Drowning, 109

Dusting, 30

Dysentery. 157

E

Ear

- irrigation, 93
- inflammation, 93

Eczema, 170

Enemata

- simple, 55
- high, 56
- nutritive, 57
- starch, 57
- infant, 206

Epilepsy, 157

Epsom salts, 22-23, 34

Ether, 1

Expectoration, 130, 145-148

Exercise, 13

Eye

- foreign body, 91
- irrigation, 91
- compress, 64
- infected, 199

F

Fainting, 111, 112

Family doctor, 21

Fear, 2

Felons, 118

Fire, 80

Flies, 31

Food

- rules for serving, 251
- kinds of, 260
- for constipation, 260
- essential, 235

Formula
 top milk, 211
 whole milk, 218
 Fomentation, 61-70
 Formaldehyde, 84
 Fractures, 102
 to lift, 102
 fractured hip, 104

Frost bite, 117
 Fumigation, 84

G

Germ, 3
 of disease, 4-5, 7
 Germicidal, 7
 Germicidal substance, 10-89
 Glycerine, 23, 46, 199
 Gonorrhea, 151
 Gown

 removal, 37
 fresh, 39

Grippe, 159
 Gruels, 257

H

Habits, 17
 Hair, 15-35
 to wash, 51
 lice, 178
 Hands, clean, 16
 bleeding from palm, 108
 surgical preparation of, 87
 Heart disease, 158
 Headache, 163
 Heat, dry, 62
 Heat exhaustion, 111
 Health, 124
 Hemorrhage
 lungs, 149
 navel cord, 195
 injuries, 107
 typhoid, 142

Hip disease, 174
 fracture of, 104
 Hives, 159
 Hot water bottle, 63
 Hysteria, 111-113, 182

I

Ice bag, 64
 Ice box, 210
 Immunity, 7, 10, 11
 Indigestion, 110-131, 163-181
 in baby, 168
 Inhalations, 70
 Infection, 109, 130
 Infectious disease, 140
 Inflammation, 109, 130
 Inflammation of kidneys, 138
 Influenza, 35-159
 Infant care
 newborn, 194
 bathing, 195-204
 clothing, 196-230
 nursing, 197
 3 hr. schedule, 202
 cry, 200
 care of mouth, 205
 infected eyes, 199
 protect eyes, 206
 general care, 201
 chafing, 204
 sleep, 205
 bowels and urine, 206
 underfeeding, 224
 overfeeding, 224
 weaning, 224
 from bottle, 225
 weighing, 226
 feeding of older babies, 225
 the normal baby, 228
 teething, 229
 sucking thumb, 230
 feeding in tropics, 230
 general caution, 230

Injury
 how to dress, 89
 Iodine, 22-24
 applications of, 62, 89, 120
 Ipecac, 23-25, 168
 Isolation, 77-81

L

Laxatives, 22
 Lice, 178
 Licorice powder, 22, 23
 Lime
 chloride, 79
 milk, 80
 water, 252
 Linen, 39, 80-82
 sterilized, 88
 Liniment, 62
 Lockjaw, 9, 159
 Lumbago, 160
 Lysol, 79

M

Malaria, 2, 160
 Masturbation, 179
 Measles, 135
 German, 135
 Meningitis, 150
 Mental attitude, 19, 180
 Mental hygiene, 183
 Medicine
 cupboard, 22
 administration of, 72
 Microbes, 1-4
 Milk, 207
 care of, 207
 certified, 207
 pasteurizing, 210
 modified, 213
 whole milk, 215
 top milk, 215
 to prepare, 215

Milk, to heat, 216
 goat's milk, 220
 boiling for indigestion, 222
 special modification of, 222
 Mouth, care of, 45
 Mouth wash, 46
 Mumps, 134
 Mustard plaster, 62
 Mustard foot-bath, 70

N

Navel cord, 195
 Nervousness, 180
 prostration, 181
 Newspaper, 36
 Nipples, 197
 cracked, 198
 inverted, 198
 care of, 211
 Nose bleed, 94
 foreign body, 94
 Nurse, the, 31
 personal precaution, 83

O

Opium, 75
 Over-taxation, 13, 181

P

Packs, cold, 68
 hot, 69
 Pain, 129-131
 Patient, daily care, 36
 to turn, 46
 to lift, 47
 sitting up, 47
 delirium, 63
 Paper napkins, 80, 148, 169
 Paregoric, 23-25
 Paraffin, 115
 Perforation of bowel, 143.

- Permanganate of potassium 79, 85
 Perspiration, 15
 Phagocytes, 6
 Pillow, 40
 Pneumonia, 144
 Poisoning, 113
 Poisons, accidental, 118
 narcotic, 119
 irritant, 119
 ptomaine, 113, 120
 mushroom, 120
 Potts disease, 175
 Poultice, flaxseed, 59
 charcoal, 60
 Prickly heat, 170
 Preissnitz compress, 70, 160
 Protozoa, 3
 diseases, 5
 Pulse, 44
 Purgatives, 22, 74
 Pyorrhea, 161
- R
- Rabies, 9, 118
 Rash, 35, 127
 Recreation, 12
 Rest, 13
 Report, daily, 124
 Respiration, 45, 144
 artificial, 109
 Rheumatism, 161
 Rickets, 171
 Room, sick, 28, 145-148
 dusting, 30
 ventilation, 30
 temperature, 31 
 airing and fumigation, 84
 Runarounds, 118
- S
- Scalding, 170
 Scarlet fever, 137
- Sand bag, 63
 Schedule, nursing, 202
 2 hr. feeding, 220
 3 hr. feeding, 221
 Scurvy, 172
 Seidlitz powder, 22
 Serum, 9, 144, 159
 Sex-hygiene, 179, 187
 Shock, 116
 Shoes, 18-19, 230
 Skin, 14, 129, 162
 Smallpox, 9, 136
 Sprains, 103
 Sputum, 144
 Sterilization, 77, 78
 dressings, 88
 Stings, 117
 Stove, 30
 Strapping, 103
 Stupe, 61
 wringer, 61
 turpentine, 62
 Surgical cleanliness, 87
 Suffocation, 110
 Sunburn, 22, 116
 Sunstroke, 110-111
 symptoms, 35, 123
 Syphilis, 150
 Syringe
 fountain, 56
 ear and ulcer, 207
- T
- Teeth, 15, 231
 Teething, 229
 Temperature
 room, 31
 axillary, 43
 normal, 44
 sub-normal, 44
 Tonsils, 169-172
 Tonsillitis, 35, 160
 Tooth brushes, 16

Toxins, 8

Tuberculosis

lungs, 147, 173

glands, 174

hip, 174

spine, 175

Turpentine, 23

Turpentine stupes, 61

Typhoid, 9, 140

U

Ulceration, 131, 142

Unconsciousness, 110

Unguentine, 22-25

Uremia, 126

Urine, 162

measuring, 128

specimen, 128

V

Vaccines, 8

Vaccination, 9, 10, 137

Vaseline 23, 46

Vein bleeding, 108

Ventilation, 30

W

Whooping cough, 147

Wounds, 22, 106-107

Z

Zinc Ointment, 22 49, 170

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